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The NEW YORK SHELL CLUB meets on the second Sunday of each month, September through June, in

ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, MAY 8, 1977, at 2:00 PM

PROGRAM: LOOKING AT CORAL AND SHELLS FROM THE ARTISTIC VIEWPOINT (with color slides)
by Marcia and Elliot Kahn and Joan Wershepf

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COMING PROGRAMS

The presentation announced above for our May meeting promises to be most enjoyable. Marcia Kahn writes: "We are planning to use slides of shells and coral that Joan and Elliot have taken, slides of the shell and coral collection of the de Jonghe's of Curaçao, slides of my sculptures which incorporate coral and shells. One, two or all of us will take turns speaking. . ."

If all goes as planned, Frank Nelson will be the speaker with slides to show us at the June meeting of his yet-to-be-taken trip to St. Lucia.

AMU '77

The 43rd annual meeting of the American Malacological Union will be held in Naples, Florida, from Sunday, July 10 to Saturday, July 16. Headquarters will be the Beach Club Hotel, 851 Gulf Boulevard North, Naples, Florida 33940. The hotel offers a choice of European or modified American plan at special rates for delegates beginning at $19 per day single, $22 double, European plan.

AMU '77's President George M. Davis of the Academy of Natural Sciences of Philadelphia will preside over a full and interesting program. A few highlights: The President's Reception Sunday evening; West Indian Fauna Night on Monday evening. A delegation of British scientists will take part in a special symposium. For the field trip, a choice of fossil or land snail or mangrove collecting, or dredging or snorkeling. Finally the banquet, in a beautiful setting overlooking the Gulf of Mexico.

Host chairman of the organizing committee is Mr. Jerome Bijur, 135 Seventh Avenue North, Naples, Florida 33940.

DUPUY GREER

We are saddened to report the death on March 24th of our long-time friend and member Dupuy Greer, about three months after suffering a severe heart attack. Our deepest sympathy is with his wife, Marie.

Mr. Greer was an artist who started even before his retirement to share his love of shells. He visited hospitals, schools, and other groups, giving lectures, displaying shells, and sharing the many surplus shells that he and his wife collected for that purpose on their many beachcombing walks. A report of one of their trips will be found in NOTES 175:4.

Mr. Greer was born before the turn of the century; his father was a veteran of the Civil War. His advancing years did not diminish his enthusiasm -- he continued with his lectures and last summer was on the TV show "To Tell the Truth." He will be missed by his many friends and remembered by hundreds of those to whom he introduced the world of seashells.

dr

FROM THE MINUTES OF THE MARCH MEETING

Among the announcements was a request by Dorothy Raeihle for contributions of material for the NOTES. (Please send them to Editor M. K. Jacobson.) It was also announced that a postage stamp recently issued by Somali pictures Strombus oldi. By coincidence, the speaker for the day was member Bill Old himself. His subject, however, was not Strombus, but Indo-Pacific Cones.

Before getting down to specifics, Bill commented on the question of how many valid species of Conus are known. He pointed out that the Van Nostrand catalog lists 553 species, and that authority Alan Kohn believes there are about 400. Bill noted that 2,600 names have been proposed for recent and fossil cones, and that one species, ventricosus, has been named about 110 times. Describing the prey of the three broad groups of cones, and comparing the virulence of their poisons, he noted that geographus has caused the death of human beings on four or five authenticated occasions. Bill showed slides that included rarities, color forms, freaks and juveniles. The last group illustrated the difficulty of identifying juveniles, and showed that many are pustulose. The photos also showed the variations within a species that geographical differences can bring about. Defying tradition, Bill ended the showing not with a sunset, but with a group of rare cones from Capetown.

Milton Werner, Recording Sec'y

A CORRECTION

In last month's NOTES, No. 230, page 4, in the article "Bill Old speaks in Defense of Conus textile," we reported that Cliff Weaver had carried live Conus obscurus under his hat. Not so. We have been corrected and apologize for the mix-up in our memo. It was Pat Burgess who carried these cones under his hat and got stung on the head; Cliff Weaver carried them in a side pocket of his trousers and got stung on the thigh.

The Conus of the stories were "not much more than an inch" in size.

The plum-colored obscurus is one of those species which feeds on fish and whose toxin is among the most virulent. The stings were described as "like bee stings" which is a rather uncertain description considering that bee stings are extremely dangerous to some individuals. We have no report on how seriously the two gentlemen were affected by the cone stings.

DR

A Postscript to SNAIL DYES IN OAXACA

(See NOTES 229:4,5)

Edward F. Cowles

With reference to the snail dyes of Oaxaca, some of you may remember my talk given in March, 1971 describing my recent visit to that area and discussing the snail of the dye, Purpura patula pansa Gould, 1853. It was I who gave Karl the article by Peter Gerhard which he translated for the NOTES.

In December of 1970 I found the custom of "milking" snails for their dye still very much alive, and in view of the relative inaccessibility of the mountain villages to tourist traffic, I have no doubt of its survival to this day. In the company of a friend from Acapulco who had been born in Pinotepa Nacional, Oaxaca, I traveled from that town on the coastal road to Pinotepa de Don Luis by "bus" (a stake truck). The road was -- and I hope still is -- not traversible by ordinary automobiles with their low road clearance. We visited one of the handful of Spanish-descended (and Spanish-speaking) families there, who operated a wholesale business in snail-dyed cloth (among other goods). We saw the rather smelly raw thread that had been brought up from the coast, and then being woven on a primitive loom, tied at one end to a post or tree and, at the other, strapped about the waist of the weaver. Besides the purple snail color, other hues are derived from berries (?) and a red insect that lives on certain cactus plants.

Snail dyeing is (or was) done also in Central America and perhaps farther south. I read somewhere that the term "nicoyana" -- referring to the Gulf of Nicoya in Costa Rica -- was applied to snail-dyed cloth sold in the highlands of Peru.

REVIEW: SEASHORE LIFE of Florida and the Caribbean

by Gilbert L. Voss, Rosenstiel School of Marine and Atmospheric Science, University of Miami, 1977. E. A. Seeman Publishing, Inc., Miami, Florida 33156. 168 pp., 19 color plates, 280 drawings, Caribbean maps, index, glossary, reference by phylum. Clothbound $9.95.

Up to now information on sea life, other than mollusks and fishes, has been spotty, scientific, or only on a few groups such as coral or barnacles. Now we have this book, in language accurate but not too technical, bringing together the commonest sea life we see in the Caribbean from Bermuda to the West Indies and northern Brazil. The 280 drawings point out identification details and, on the opposite page, the paragraph description. Even some molluscan soft-bodied species, such as octopus and sea hares, are covered. Everyone who beachcombs, shuffles in shallow water, peers through a glass-bottomed bucket, snorkels or uses SCUBA, should own this book. It does no good resting in the library, you need your copy to carry to the shore or in the boat. Was I ever glad to be able to separate brittle stars, sea cucumbers, sponges, and some of the puzzling crabs! I like echinoderms and "eureka" all I need (for now) are in this one book by Dr. Voss. This is a book for anyone who is curious about sea life along the shore and off the Caribbean islands. In SEASHORE LIFE, poisonous or stinging species are each marked with a skull and crossbones; its danger and doctoring are described.

There is a most friendly preface from author to reader; four pages on COLLECTING & PRESERVING -- really super and covering those little known creatures so hard to preserve -- ending with a caution for conservative collecting action. The author reminds us of the pleasure of looking up the meaning and enjoying the scientific names as we move along in our hobby and progress to the full use of them. Another great feature is that each drawing again gives the scientific and the common name.

A condensation of the review by
Corinne E. Edwards, Editor, in
THE MOLLUSK 15(2):2 February 1977

CORBICULA, SPREADING PEST

A price sheet from a California firm supplying laboratory material lists Corbicula leana Prime, 1864 (Lea's Asiatic Clam) at 15¢ each for small, 45¢ for large. To quote Dr. David Stansbery, this insures that every State has its fair share of Corbicula. Brought from the Orient in the 1930's, it is one of the most costly molluscan introductions in recent times. It has caused much trouble in irrigating ditches, gravel operations, highway construction, etc. (has clogged the intake pipes of many water systems and caused failure of concrete in construction. It is working its way south from central Florida and north from central Ohio). This is a conservation problem in reverse. Marc Imlay suggests that each member write to the Secretary of Interior, Cecil D. Andrus, to Dr. Juanita Kreps, Secretary of Commerce, and to your Senator and Representative, to have this pest mollusk put on the "Prohibited Species List" under the Lacey Act. This would at least halt its spread by commercial means.

From: Conservation Committee Report, AMU NEWSLETTER 1977

Among other species of introduced mollusks that have become pests are Corbicula manilensis (Philippi 1844) which has become very widespread, and Corbicula fluminea. The freshwater gastropod, Tarebia granifera (Lamarck, 1816), originally from China, is now established in Florida and southern Texas. It serves as the intermediate host of the trematode Philopthalmus megalurus infecting the nictating membrane of aquatic birds. Another Oriental introduction, Melanoides tuberculatus (Müller, 1774), is an intermediate host for a Chinese liver fluke.

These are only a very few of the introduced species that are causing trouble -- sometimes by displacing native species. Perhaps the most publicized was the case of Achatina fulica, the Giant African Snail, in which it took three years of vigorous work to eliminate the offspring of three specimens brought in by a child to the Miami area.

The STEPHEN ELLIOTTS - THREE GENERATIONS OF AMERICAN CONCHOLOGY

Harry G. Lee

On November 11, 1771 probably the first important conchologist of the American South, Stephen Elliot I, was born in Beaufort, South Carolina. During his lifetime he became a leading citizen of Charleston, distinguishing himself in many fields including botany, politics, and banking. An abiding interest in natural science impelled him to help create two important institutions in Charleston: The Literary and Philosophical Society of South Carolina (a forerunner of the Charleston Museum) and the Medical College of South Carolina (where he was the First Professor of Botany and Natural History). Elliott was a friend of Thomas Say and sent the Philadelphian many seashells collected in the southeast United States. At least ten valid taxa, most quite familiar to local collectors, were discovered by Mr. Elliot and described by Say. Elliot also built a collection of fossils which was important for its day. It is said that his collections were passed on to the Charleston Museum. When Elliott died in 1830, his eldest son and namesake was twenty-three years of age.

Stephen Elliott II graduated from South Carolina College in 1825 and was admitted to the South Carolina Bar in two years. A few years later he was called to the ministry and in 1841 was consecrated the first Bishop of Georgia in Savannah's Christ Church (designed by malacologist James Hamilton Couper). He spent most of the next twenty years traveling over his extensive diocese. Cast from his father's mold, he took ample time along his journeys to carefully collect snails and clams. Isaac Lea, Rt. Rev. Elliott's principal malacological correspondent, wrote the following of the Bishop: "Malacological science is indebted to you for the development of most of the Unionidae which I have described from Georgia, and I have a lively sense of the able, prompt and efficient aid rendered by you which has enabled me to bring to the public view the extraordinary treasures of your state... It will be observed... that he (Elliott II) has brought not only a vast number of new species to life but that he carefully collected them with the soft parts, so that I am able to give the chief points of their anatomical structure." Lea based the description of no less than seventy-three species of aquatic mollusks on Rt. Rev. Elliott's specimens. At present only ten of these species are considered valid, but they include several of the fine species of pearly freshwater mussels occurring in Florida. Glancing at Elliott's localities, one can see that he sampled from all three of Georgia's watersheds: The Chattahoochee-Flint and Alabama systems as well as the rivers of the southern Atlantic slope. He did not completely limit himself to freshwater collecting in Georgia - he found the holotype of _Ventridens elliotti_ (Redfield, 1856) in the "mountains of ... North Carolina."

Elliott II was a member of the Royal Society of Conchologists and had international ties. In about 1857 he and his eldest son visited Cuba, where they spent time with the malacologist Felipe Poey (whom Karl Jacobson called the greatest of Cuban naturalists). The Elliotts and Poey collected together and, perhaps unexpectedly, Stephen Elliott, aged about twenty-four years, asserted himself by finding a previously unknown species of land snail. Poey rewarded the lad by naming the new species _Cylindrella elliotti_ in 1858 (= _Callania elliotti_).

Just before the War Between the States Bishop Elliott realized his long-time dream, the founding of the University of the South in Sewanee, Tennessee. He was appointed Chancellor after the war, but did not live to witness the school's eventual revival. An Elliott memento, some of his shell collection, remains at the University.

Yet Bishop Elliott's untimely death in 1866 was not the final chapter in the family's involvement in conchology -- nearly fifty years later William Mazÿck honored the Charleston Museum patron, Stephen Elliott I, by describing *Epitonium elliotti*. Interestingly, modern workers believe this species to be synonymous with *E. multistriatum* (Say, 1826), which was described from a specimen provided by the same Elliott almost a century earlier. Thus the saga of the Elliott dynasty came about full circuit, and we have an instance, perhaps unique, in which *three* generations of an American family of conchologists have had shells described in their honor.

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Some recent mollusks originally collected by, or described in honor of: Stephen Elliott I (1771-1830)

Goniobasis catenaria (Say, 1822)
Epitonium multistriatum (Say, 1826)
Engoniophos unicinctus (Say, 1826)
Melongena corona bicolor (Say, 1826)
Pleuromeris tridentata (Say, 1826)
Terebra concava (Say, 1826)
Retusa canaliculata (Say, 1826)
Nassarius albus (Say, 1826)
Siphonaria alternata (Say, 1826)
Cerithium muscarum Say, 1832
Epitonium elliotti Mazÿck, 1913 (invalid taxon).

of: Stephen Elliott II (1806-1866)

Ventridens elliotti (Redfield, 1856)
Lampsilis excavata (Lea, 1857)
Medionidus penicillatus (Lea, 1857)
Alasmidonta triangulata (Lea, 1858)
Pleurobema johannis (Lea, 1859)
Pleurobema murrayense (Lea, 1868)
Pleurobema favosum (Lea, 1856)
Pleurobema pyriforme (Lea, 1857)
Villosa vanuxemensis umbrans (Lea, 1857)
Dysnomia modicella (Lea, 1859)
Pleurocera showalteri (Lea, 1862)

of: Stephen Elliott III (1832-1906)--*Urocoptis elliotti* (Poey, 1859)

From: Shell-O-Gram 18(3) March 1977.

INCONSPICUOUS GASTROPODS

Dorothy Raeihle

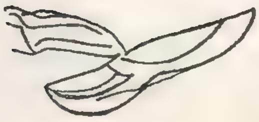
They are small and soft and have no shells. They are "sea slugs," sacoglossans and nudibranchs. They live on marine growths in the intertidal zone and in salt marshes and shallows. A number of species are to be found in Long Island waters: In NOTES Nos 200:7-8 and 214:2-4, Ronald Rozsa listed 21 species that he either personally collected or found recorded from this area. The species here illustrated is the sacoglossan *Stiliger fuscatus* (Gould, 1870), which ranges from New Hampshire to Virginia.

When Augustus Addison Gould described this species he called it *Calliopaea* (?) *fuscata* (INVERTEBRATA OF MASSACHUSETTS, 2nd ed. 1870, p. 250, pl. XVI figs. 218-221). His excellent figures 219-221 are reproduced in Abbott's AMERICAN SEASHELLS, 1974, No. 4143, p. 340.

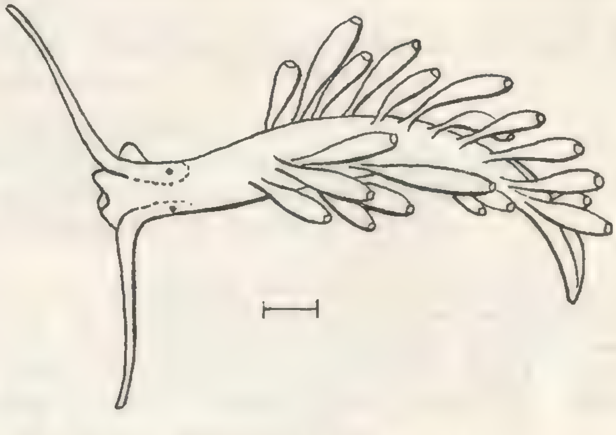
We first collected *Stiliger fuscatus* in 1963. At that time we had herbivores in the aquarium for which we collected fine seaweeds, and when algae-covered pebbles were briskly rinsed in sea water before putting them in the aquarium the little creatures would swim free. They were collected thus by chance and only occasionally during the next few years, on material from Center Island Beach at Bayville and from Long Beach Bay back of Orient Beach State Park. George Raeihle photographed the largest specimen, a good-sized adult 7mm long, and made the accompanying drawing from the color slide.

The *Stiliger* lived up to three months in captivity, remaining dark (*fuscatus* means "dusky") while they fed on green algae, but changing to a medium brown when they had available only the brown algae that grew on the walls of the aquarium. Unfortunately, attempts to preserve them were unsuccessful.

The drawing of the radular tooth is as figured by Ernst Marcus in his anatomical study of this species in American Museum NOVITATES, 1958, No. 1906. We quote: "The radula consists of four teeth in the ascending limb, 11 in the descending limb, and 25 in the ascus. The shape of the teeth is that usual with the genus; the cusp is 82μ, the base 55μ, long." (One μ = one one-thousandth of a millimeter.)



Radular tooth



Stiliger fuscatus (Gould, 1870)

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NEXT MEETING: SUNDAY, JUNE 12, 1977, at 2:00 PM

PROGRAM: A TRIP TO ST. LUCIA
by Frank Nelson

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FROM THE MINUTES OF THE APRIL MEETING

This annual social meeting was held, as in the past, at NYSC member Dorothy Jensen's Broadway Dance Studio, in Astoria, Queens. Attendance was 60 members and guests.

The first event on the program was the showing of a film obtained, by member Joel Rosenthal, from Southern Airways. It is titled "Things that Go Bump in the Night," and only two of the things are molluscan. All, however, are marine, making it eminently appropriate. The location is the wreck of the ship "Balboa" off Grand Cayman. Most of the footage was shot at night, the hours of peak activity among the denizens of the deep attracted to the hulk for food and/or shelter. The comings and goings of such types as octopus, crab, blowfish, barracuda, croaker, squid, moray eel and parrot fish, to the accompaniment of humorous comment and sound effects, made an interesting presentation.

Bill Old then showed slides he had taken at shell shows, and at zoos in Detroit, Milwaukee, Miami, Dallas, and Brownsville, Texas. He had chosen photos of a few of the most noteworthy specimens in each. He also showed several pictures of Operation Sail, New York City's July 4th Bicentennial event, and one of the stamp issued by Somalia that depicts Strombus oldi.

Bill then switched occupations, and conducted the annual shell auction. He opened by offering a copy of the famous July '49 issue of National Geographic Magazine, and followed with several excellent shell drawings and paintings executed and donated by artist-members Reimann and Scarpetti. The outstanding shells that found new homes were a beautiful Spondylus regius from Japan, and a Conus praelatus from Mozambique.

The door prize was a two-for-one: Trophon beebei and Murex macropterus. The raffle prize was a copy of Peter Dance's "Collector's

Encyclopedia of Shells." Business at the sale table was under the hand of Lee Nelson.

During the ensuing cocktail hour and buffet supper, topped off with homemade cakes, the volume and intensity of conversation was judged to have reached a new high.

Milton Werner, Recording Secretary

FRANCIS S. HARMON

It is with sorrow that we report the loss of our member Francis S. Harmon, who died in St. Luke's Hospital on April 27th. Our deepest sympathy is with his wife, Waverley, and their family.

Mr. Harmon was born in Mississippi 82 years ago. From his early work as a newspaper publisher in the south he went to California, where he was with the Hays office for ten years, and where he became vice president of the Motion Picture Association of America. From 1932-1936 he was general secretary of the International Commission of the Young Men's Christian Association, a position which required a number of trips abroad.

Mr. and Mrs. Harmon were already world travellers when they became interested in shells (Mrs. Harmon joined the New York Shell Club in 1962, Mr. Harmon became a member in 1966.), and the collecting of shells became a prime objective on several of their subsequent trips -- to Japan, Australia, Russia, Kashmir, the Barbados, and more than one to Africa and Mauritius.

Ex-newspaperman that he was, Francis Harmon made detailed notes recording his experiences and observations -- observations which might touch perceptively on political and social conditions as well as scenery and shells. We were privileged to publish in our NOTES excerpts from his records of two of their trips: "Adventures in Africa" (1966) appeared in NYSC NOTES 156:4-6; his "Queensland Odyssey" (1968) in NOTES 158:5-6, 159:6-7, 160:6-7.

We mourn his passing. A memorial service will be held at 3:00 p.m. on Friday, June 3rd, 1977, at the Interchurch Center Chapel, 475 Riverside Drive, New York City.

ARTICLE OF THE MONTH

"On a snail's chances of becoming a year old" is the title of Dr. Tom Spight's article in OIKOS 26 (1): 9-14, 1975. Mortality rates of juvenile *Thais* were obtained by comparing fecundities to size structures and to counts of juveniles. Although about one thousand eggs are produced annually by a female, rarely do ten eggs survive to age one. For *Thais lamellosa* both egg and yearling crops varied by an order of magnitude over a five-year period. Numbers reaching age one increased annually from 1968-1973 in two populations and the change parallelled an increase in food abundance.

Henry D. Russell

DON'T MISS Ethelyn Woodlock's exhibit of paintings, shells, shell artifacts. Bergen Community Museum, Paramus, N.J., May 4 - July 3.

HELIX ASPERSA, PORTRAIT OF A COLONIZER

by

Ze'ev Bar
Kibbutz Bet Ha'Emeq, 25 115, Israel

Tristram (1865) relates that "*Helix aspersa* is very common in the gardens of Tyre, Sidon, Beyrout, Jaffa, and all places on the coast" and that "it is collected and sold in the markets for food." This association of *H. aspersa* with human activities characterizes the dispersal and distribution pattern of this large land snail throughout most of its present existence in the world. *Helix* (*Cryptomphalus*) *aspersa* Müller, 1774 was once a native of the Mediterranean coastal areas. Zilch (1959/60) mentions it from the Upper Pliocene in Italy and subsequently Sicily and Algeria.

From the western Mediterranean the snail has, since early times, been dispersed by human activity, partly on purpose for human consumption, and partly inadvertently with garden plants and vegetables. Its present distribution is practically cosmopolitan though limited to human environments.

Human consumption. Since prehistory man learned that some large species of land snails are at times easily collected and can be a tasty seasonal variety in the diet. Wildhaber (1950) considers *H. aspersa* "the most important edible snail in the Mediterranean and Western Europe (Spain, southern France, Italy)." Boekschoten (1962) recalls that in Crete *Helix aspersa* and other land snails are collected by the shepherds and sold as cheap protein food to the inhabitants who rarely can afford meat or eggs. "The collecting is done mostly in the evening, because at this time the snails leave their hideouts from the sun. Especially during the Lent the dark slopes of the lowland hills are enlivened by the wandering lights of the snail collectors." In Spain, *H. aspersa* is highly valued as a delicatesse and consumed in large numbers (Alvarez, 1969). Taylor (1910) mentions a special snail market in Valencia, "where the women, who are called 'Caraooplas,' congregate in the open market square with heaped-up baskets of snails, loudly crying their wares, and occasionally cracking a shell with their teeth to show the quality." Recently, large quantities have been exported from Turkey to France (Nawratil, 1969).

Intentional human transport. The Romans were, no doubt, among the first transporters of *Helix aspersa*. Snails were considered important food, and both Pliny and Varro describe how they were grown on ranches where they were fed special foods like bay, wine and spicy soups to preseason them. The most esteemed species was the very large "Roman Snail" (*Helix pomatia* L.) from the limestone hills of southeastern Europe (Floericke, 1920) but *Helix aspersa* was a good second. Thus the earliest appearance of both these species in Germany and England was associated with Roman settlements (Ant, 1971; Falkner, 1969; Evans, 1972 and Kerney, 1966).

Another wave of human intentional transport occurred during the Middle Ages when these large edible land snails became a popular substitute for meat during the fast in Catholic Europe. Floericke (1920) relates that in the northern plains of Germany, isolated populations of *H. pomatia* can be found, usually at sites of early large monasteries where the monks used to keep the animals in special "snail gardens." Into Holland, Helix aspersa was probably imported from southwestern Europe as a fasting treat (van Benthem Jutting, (1941).

Outside Europe, Ellis (1969) states that Helix aspersa has recently been introduced into South Africa, parts of North and South America, and many places in the Australian region. About 1860 Frenchmen and Italians brought H. aspersa to Chile where the animals reproduced in such vast numbers that they soon caused enormous damage in the vineyards (Floericke, 1920). The snail reached South Australia by way of Adelaide where it was deliberately introduced and liberated before 1879 in a cemetery "in the hope that it would help in eradicating introduced slugs" (Pomeroy & Laws, 1967). It now occurs widely throughout the agricultural regions of the State, although it is confined to areas with summer watering which may mean that here it can only become a pest of irrigated crops and market gardens. It has been introduced into South Carolina, Louisiana, California and Colorado (McCoy & Neldon, 1962). According to Stearns (1900) the "European Brown Snail" was brought to California between 1850 and 1860 from France and turned out among the vineyards. In 1869 Binney reported it from South Carolina, Louisiana, Maine and from Nova Scotia in Canada.

Agricultural pest. Apart from the considerable damage which Helix aspersa causes to vegetable and flower gardens, its potential danger to other crops is evident. In southern California, it is very common in the citrus groves (Pappas & Carman, 1955 and 1961) and does considerable damage to leaves and fruit (Basinger, 1931). In Israel, Harpaz & Oseri (1961) found that it is yet hardly noticeable on citrus. In the Madeiran archipelago H. aspersa is now to be found in banana plantations, where it congregates on the stems of the plants in the folds of the emerging leaves (Cook et al., 1972).

Preadaptations. Helix aspersa seems to be preadapted to the kind of human dispersal described. Like most typical Mediterranean land snails, it has the ability to survive in a dormant state (aestivation) for many months during the warm and dry summer, a feature which Pomeroy & Laws (1967) consider "an ideal attribute for long range dispersal by man." This feature and subsequent dispersal is similar in Theba pisana. Aestivation is basically not different from hibernation. Both Helix aspersa and Theba pisana hibernate in England and are thus forced into summer activity. In the Mediterranean region, H. aspersa and T. pisana are naturally limited to narrow coastal valleys with high humidity and moderate temperature fluctuations. In northwestern Europe, where both species have frequently been introduced, they have generally failed to establish permanent breeding colonies beyond regions of mild maritime climatic regime. Steusloff (1939) found that H. aspersa had many times been carried to southern Germany from the west and breeding colonies had been started. Nevertheless the animals had always perished in the rather severe German winters. Only a few small colonies have apparently been established in the lower Rhine valley. In the Netherlands breeding colonies are to be found all along the western coast and a few a little more inland along the large rivers and around the IJsselmeer (Gittenberger et al., 1970). The species is distributed over much of the British Isles, north to the Outer Hebrides and Orkney, but is rare in eastern Scotland on account of its susceptibility to winter frosts (Evans, 1972). Microclimatically, it is probably in this sense that we should explain the fact that H. aspersa never establishes itself beyond the limits of irrigated plots.

As to food plants, Helix aspersa is little selective. In captivity it was found to eat 114 out of the 197 different kinds of food offered (Taylor, 1910) as compared to 54 eaten by Cepaea hortensis and 26 by C. nemoralis. In addition to living plants, the food of Helix aspersa consists of dead or decayed vegetation and other organic matter in the soil. The snail prefers habitats rich in organic waste matter and tolerates the pollution resulting from human activity. In this respect it is proper to quote Alvarez (1969): "The human influence is not always negative. On some species it has such a favourable effect, that within a few years only they remain in human company... This is the case, for instance, with Helix aspersa, even though it is consumed in large numbers."

Another feature worth mentioning here is the high rate of reproduction. Only a few individuals need to be transported to a favourable new site. The mutual fertilization of these hermaphrodites and high rate of reproduction (Mienis, 1969; Herzberg & Herzberg, 1962), with up to 100 eggs at a time, allow quick establishment of a breeding colony. Basinger (1931) estimated for California that each individual snail is able to lay 430 eggs during 8 months when oviposition is possible. Frömming (1954) observed in his aquarium 40-50 eggs each brood and four broods in the course of 7 months.

Mention should be made of a very well developed homing instinct which makes Helix aspersa return regularly to the same favourite retreat each morning after its nightly foray (Duncan, 1943). Taylor (1910) relates an early marking experiment conducted in England in 1884 which demonstrated that H. aspersa "has frequently been observed to traverse with much labour, broad dusty roads, and climb rough walls to reach some favorite food, but instead of secreting itself at daybreak, near by, will retrace its toilsome journey morning after morning to its retreat." This same homing behaviour has been described and studied for Helix pomatia in Sweden by Edelstam & Palmer (1950). They found that, if removed beyond the possible limit of homing, the snails would respond to available stimuli rather than spread by chance over surrounding favourable areas. "Regarding the evolutionary value of a habit like this one - we essentially agree with a verbal suggestion made to us by Prof. Bernhard Rensch that, on the average, an organism with little ecological plasticity will always have a greater chance of survival in the area where it has already persisted for some time with success. However, this instinct is bought at the price of a poor spreading capacity. That this is essentially so in H. pomatia is shown by its distribution in Sweden where it still occurs only in those limited areas where it has been planted out by man, even if interjacent areas provide a favourable habitat to the species."

(Extracted from "Helix aspersa, portrait of a colonizer" by Z. Bar, LEVANTINA 2: 9ff. (May 1976), a malacological newsletter published jointly by the Israel Malacological Society and the Municipal Museum, Nahariya. Compiler: Henk K. Mienis, Kibbutz Netzer Sereni, 70 395, Israel.)

HISTORY OF MALACOLOGY TO 1825 (XII)

Ducrotay de Blainville

Translated and adapted by M. K. Jacobson

CUVIER AND PTEROPODS

Four or five years after Cuvier and Lamarck had each published his system of malacology, Cuvier, when he studied the anatomy of Clio borealis in 1802, noticed that this animal had none of the characteristics of his cephalopods; nor did it have the crawling foot so typical of his gastropods with which, however, it had many other features in common. He realized that Clio nevertheless was closely related to the gastropods and he placed them very close together. Later he noticed that the animal of Hyala, collected in 1804 by Peron and Lesueur, as well as another animal for which he had earlier erected the genus Pneumoderma, both moved, like Clio, by means of winglike structures placed on each side of their body. Therefore for these creatures he established a new order called "Pteropoda" (Greek for wing foot. Ed.) to include Hyala, Pneumoderma, and Clio and, perhaps also Firola. Lamarck also set up some new genera in the Pteropoda, some of which he separated from Balanus Linnaeus.

LOUIS BOSC *

Despite all the obvious progress in classification of the malacozoa, some persons, even in France, still did not believe it to be proper to abandon the Linnean system as perfected by Bruguière. Such, for example, was Louis Bosc in his supplements to the work of Deterville in 1802. Although he well appreciated the value of these innovations, he still kept the fallacious divisions of Vermes mollusca for the naked mollusks and Vermes testacea for the shelled ones. In each division he followed Bruguière almost exactly, but nevertheless adopted the new genera established by Cuvier and Lamarck. We have already shown in our discussion of Bruguière how unnatural such a system is. However, Bosc, who was often able to study live mollusks, added much new data regarding their life histories. He also established some new genera (Many of which are now known to be non-molluscan ascidians. Ed.).

J. P. R. DRAPARNAUD

In a prodrome of a great work published by Draparnaud in 1803 -- the work itself appeared only posthumously in 1808 -- one can also see signs of a rational and convenient approach to malacology. This is true not only in the erection or adoption of some new genera like Vitrina, Ambretta, Clausilia, Physa, and Valvata, but also the manner in which the author proposed to describe the shell -- above all the bivalve shell -- as if they were part of the animal crawling in front of the observer. Thus he was the first to abandon the arbitrary way in which Linnaeus and his followers had placed the shells when describing them. Instead, Draparnaud returned to Reamur's ideas as stated in his Memoire sur le movement progressif de coquillages (Academie des Sciences, 1711). In other respects, however, Draparnaud's system is the same as Cuvier's.

---

*Also a botanist, Bosc was at one time sent from France to take charge of the Charleston garden established by André Michaux. (D.C. Peattie)

SOME PALEONTOLOGICAL HOAXES

Morris K. Jacobson

In the May 1977 issue of NATURAL HISTORY magazine there is a fascinating bit of history entitled PALEONTOLOGICAL HOAXES by Dr. A. Myra Keen, the prominent West Coast malacologist and author of SEA SHELLS OF TROPICAL WEST AMERICA. The hoaxes dealt with the Piltdown man, "discovered" in 1912, Herr Dr. Beringer, the unfortunate German scholar who in 1725 was cruelly hoaxed by his students, and the Calaveras skull which was foisted upon science in 1886. This article reminded me of two similar but unreported hoaxes in one of which I was almost the unwitting perpetrator.

The first occurred quite a few years ago and concerned a former member of our Club who reported that he had found, as I recall, a small mammal skull in a New Jersey fossil bed that was believed to have no mammal remains at all. This was an important find and caused some excitement in paleontological circles. Unfortunately for the perpetrator, the fossil -- as is normal procedure -- was subjected to a violet ray examination and this revealed a "fossil" museum accession number, written on the specimen but so faded as not to be visible to the naked eye. The museum number was traced to a fossil collection in a Texas museum and the skull was found to have been uncovered in a fossil layer in that State. How the young man obtained the skull is not entirely clear. Probably he found it in some neglected collection of fossils in some college museum. Fortunately neither the description of the skull nor the report of the "find" ever appeared in print. The culprit, who had apparently deliberately fabricated the scheme, had been uncovered before that happened.

The other hoax -- actually only a sub- or pseudo-hoax -- was almost perpetrated by me. On a collecting trip to Ward's Point in Staten Island, New York, I found a beautifully outlined layer of gray clayey mud about eighteen inches below the present soil surface. In that layer I found, among other species, large specimens of Macoma tenta Say and huge numbers of broken Cyrtopleura costata Linnaeus. Now neither species, especially the latter, had proved to be as abundant in the New York City area as they seemed to be in this fossil bed of shells. Thus the quick conclusion was reached that this layer represented a fossil bed laid down when our waters were warmer and the Cyrtopleura was more common, as common, say, as they are today in Florida. I was delighted and returned several times to the location, busily digging away and steadily increasing my haul of fossil shells. Until one day, right among all the fragments of the Angel Wing and other species, I came across a beautifully preserved fossil example of a burned coal cinder! In a moment several more of these fossils turned up and my whole "fossil" layer disappeared in a flash.

The "fossil" layer, of course, was nothing more than the remains of harbor dredgings performed earlier in the 20th century. I know that now, but I did not know that before. Luckily in this case also nothing appeared in print about the great find -- except for the present confession. So no harm was done.

In the same issue of NATURAL HISTORY there is also an interesting article by Arnold Tamarin called HOW MUSSELS GET ATTACHED.

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The NEW YORK SHELL CLUB meets on the second Sunday of each month, September through June, in

ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, SEPTEMBER 11, 1977, at 2:00 PM

PROGRAM: A TRIP TO ST. LUCIA (with color slides)
by Frank Nelson

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DATE OF FIELD TRIP CHANGED FROM JUNE 26 TO JULY 10

We have been advised that the date of the First Annual Long Island Shell Club/New York Shell Club Field Trip to Orient Beach State Park has been changed from June 26 to Sunday, July 10, 1977.

If interested, telephone Richard or Marc Goldberg at (212) 357-6338, after 6:30 pm, please.

SHELL DESK DIARY

Shell Oil Company is now accepting orders for their 1978 Shell Desk Diary. This 19th edition of the Diary will be a "handsomely bound, gold-stamped, 160 page hard-cover publication crammed with exquisitely printed color photographs, drawings and fine engravings of sea shells, as well as plenty of space to keep a record of everything you plan to do in 1978."

The price is $3.00 for each Diary ordered. Make checks payable to Shell Oil Company and send to: Mr. F. H. Roberts, Shell Oil Company, Public Relations Department, One Shell Plaza, Room 1536, Houston, Texas 77001.

Closing date for orders will be August 1. Diaries will be mailed in November.

A limited edition of the Shell Desk Diary is printed each year, according to the number of prepublication orders. Shell Oil Company sends only one announcement of their forthcoming publication, so if you are at all interested you should place your order soon.

STERKIANA WILL CEASE PUBLICATION WITH NUMBER 70

In the September, 1976 issue of STERKIANA (Nos. 63-64), Editor Aurèle La Rocque regretfully announces the coming retirement of this excellent publication which was started in 1958. Dr. La Rocque writes:

"As it happens, Sterkiana has served its original purpose which was to publish articles, mainly theses and dissertations which were too large for other publications. As the two main advisors of such work are retiring from graduate work this year, it will now be up to others to pick up the challenge and continue the work in a different way.

All back numbers of Sterkiana remain available but in future will be subject to a postage surcharge equal to the ever-increasing postal rates.

As Sterkiana bows out, its editor is happy to mark his gratitude to all who have helped with the project. Fortunately, new publication outlets have appeared since 1959 which are now available to the malacologist and paleontologist."

STERKIANA deals almost entirely with land and freshwater mollusks. In addition to the theses and dissertations (which have included in recent numbers "An Analysis of the Current Status of the Schistosome Dermatitis Problem in Michigan," a 64-page study by Robert Charles Wall; "The Freshwater Naiads of Ohio ..." by Clarence F. Clark, and "Recolonization of Bithynia tentaculata (Linnaeus)...in the Zone Affected by Heated Water Overflows from the Gentilly Nuclear Plant, Quebec, Canada," by Guy Vaillancourt & Richard Couture, Dr. La Rocque has reprinted for us several rare papers on Mollusca, currently VERMIUM TERRESTRIUM ET FLUVIATILIUM, Müller, 1774 -- a widely quoted reference of which very few copies are known to exist.

Those of you who wish to take the opportunity to acquire a set of the soon to be discontinued STERKIANA should write to Dr. Aurèle La Rocque, 102 West Beaumont Road, Columbus, Ohio 43214.

FROM THE MINUTES OF THE MAY MEETING

As a gesture of appreciation to Dorothy Jensen, who has opened her dance studio to the Club for all of our annual social meetings, she was declared an honorary life member.

News of the deaths of members DuPuy Greer and Francis Harmon was received with regret, and sympathy was expressed for Mrs. Greer and Mrs. Harmon. In contrast was a happy announcement received from members Leo and Severine Hernandez of the birth of 7+ lb. Erica.

Richard Goldberg, a member of both the New York and Long Island Shell Clubs, conveyed from the Long Islanders an invitation to join them on a field trip to Orient Beach State Park, planned for June 26 (but now changed to July 10. Ed.). Response was favorable and enthusiastic.

The speakers for the day were Marcia and Elliott Kahn and Joan Weiskopf, whose subject was "Looking at Coral and Shells from the artistic Viewpoint." They had on display a Nautilus and a Charonia, and a geode, each part of separate constructions which also featured figurines sculpted and cast in bronze by Marcia. Among the slides in their presentation were studies of other constructions with figurines of swimmers, imaginative sea monsters, shells and octopus. Other photos showed how Mr. and Mrs. de Jong have decorated the grounds of their home at Martha's Bay, Curaçao, with large chunks of coral, and anchors and bottles retrieved from the sea. Still other pictures caught shells from unusual angles, in multiple arrangements, and "posed" against snow.

Milton Werner, Recording Sec'y.

REVIEW:

MUREX SHELLS OF THE WORLD:
An Illustrated Guide to the Muricidae

by George E. Radwin and Anthony D'Attilio. Stanford University Press, Stanford, California. 284 pp; 32 color plates; 192 text figures, $35.00. 16 December, 1976.

Muricidae being among the most showy of all molluscan shells, it is rather surprising that collectors have had to wait so long for a book that would list and figure a substantial number of them, which this book does well. On the 32 color plates and in the black-and-white figures, over 450 species are illustrated. Large-scale drawings of sculptural details, of radula teeth, and other special features such as apical whorls add a dimension missing in most books.

In the 18 pages of introduction the authors briefly discuss classification of the family; significant anatomical structures, especially as related to behavior and habitat; the units into which the family is divided for convenience of study (subfamily and generic classification); and, in alphabetical order, the species assigned to each unit or taxon.

The review of species follows a standard sequence of parts in the text -- general definitions, then under each subfamily the generic units in alphabetical order, with a few paragraphs on each species, again in a standard order: name, brief synonymy; shell features, with occasionally some notes on related forms (more of these would be useful to the reader); geographic distribution; and reference to color figures.

In their introduction the authors explain that they prefer to lump at the specific level and split at the generic level. Thus, they recognize no subspecies or subgenera, synonymizing the former and elevating most of the latter to generic rank (a few subgenera disappear into synonymy entirely). The resulting array of units may startle the novice users of the book, especially students who previously had as guides only the conservative terminology of earlier workers. The rationale for this "practical solution" may escape such users, and, indeed, one would wish that there were more comments on synonymies, particularly on those on which even the specialists disagree or those being made here for the first time.

Because of their bias in favor of the radula as guide in classification, the authors make some surprising reallocations. For example, the West American Trophoninae are broken apart, the tropical groups of Acanthotrophon and Nipponotrophon going to Muricinae, and the group of Austrotrophon and allies to Thaididae (a family not considered in this work). Trophoninae, which reach their climax in deep water and the Southern Hemisphere, are here mostly summarized by named generic units only, with citation of type species. Three species of tropical West American presumed trophons -- Boreotrophon panamensis Dall, 1902, and Trophon diazi and T. lorenzoensis Durham, 1942 -- are omitted from mention, perhaps because they occur only in deep water.

Sixteen species are described as new in an appendix. Three species that could not confidently be assigned to a subfamily are discussed and figured, and 38 are merely listed by name because of lack of sufficient documentation. [Ironically while this book was in press, a name-change was published that affects one type species: Bullock (Tulane Univ. Studies in Geology, vol. 12, p. 133, Sept. 1976) shows that an earlier name for the type of Attiliosa is Peristernia nodulosa A. Adams, 1855.]

A glossary, with illustrated terminology, a list of sources for the figures, a bibliography, and an index complete the work. The book is assembled with the care for which Stanford Press has become noted, and it forms a worthy setting for the elegant drawings of Anthony D'Attilio, who combines his ability as artist with his interest in shells to our advantage. David Mulliner's skill as photographer comes through well in the color plates. The book is, then, one that can be displayed with pride.

A. Myra Keen
VELIGER 19(4):455-456. 1977

(The authors were pleased to present the shell photographs in actual size. However, we have received comments on the loss of detail in small species -- especially those of 5mm or less -- that are also reproduced life-size on the color plates. mkj)

ARTICLE OF THE MONTH

In Sarsia 60: 25-40, 1976 is an article by Dr. Tor Strömgren entitled "Growth patterns of Mytilus edulis in relation to individual variation, light conditions, feeding, and starvation." The author points out that shells were measured once or twice daily by laser diffraction and that growth was considerably higher in animals kept in the dark, but that animals grown under normal conditions of day and night showed greater growth during the day. It is suggested that a minimum period of darkness is necessary to give rapid growth. All specimens responded to starvation within 24-36 hours by reduced growth rates, regardless of previous feeding.

Henry D. Russell

SHELLERS, BEWARE!!

If any of your clubs plan to charter a boat for a shelling trip, make sure that you know all about the boat, its condition, and that of all of its equipment, the qualifications and experience of its captain, its insurance, and, if it's a "bare boat charter," be doubly careful. About 30 of the Astronaut Trail Shell Club (of Melbourne, Florida) set out for a weekend at Walker's Cay. Twelve hours late, they struck a reef in an isolated area almost 40 miles off course. From 8 pm Saturday until noon Sunday they clung to the boat and each other until rescued by small boats from Walker's Cay. The hotel produced hot food, washed and dried clothing, and kept some overnight as others were ferried to the mainland in a small plane from F.I.T. Most lost everything in the wreck. Some are still having physical problems. An hour after rescue, a 70 mph wind hit the wreck and just about wiped it out. If you want more details, write John Baker, AMU member.

From: AMU NEWSLETTER, Fall 1976, pp 3-4

PHILATELIC RECOGNITION

We are proud to announce that on December 30, 1976 the People's Republic of Somalia issued the 2.90 Somalian Shilling stamp depicting Strombus oldi Emerson, 1965, the shell which was named in honor of William E. Old by Dr. William K. Emerson of the American Museum of Natural History. Mr. Old, of the Department of Mollusks, AMNH, is a long-time member and former president of the New York Shell Club.

mkj/dr

SOME HISTORICAL CURIOS

H. Odé

The...note here translated from the original French in the Journal de Conchyliologie, Vol. 13, p. 68, 1865, comes from the pen of H. Crosse who reported on "The Intervention of Molluscs and Cirrhipeds in the American Conflict" (cirrhipeds = barnacles.). It came somewhat as a surprise when reading it to see conchology, which in my mind has somewhat of a timeless nature, so intimately interwoven with the mundane affairs of men. The translation, somewhat freely abbreviated here and there, is as follows:

"The latest American journals have disclosed a rather curious scientific fact, which is sufficiently related to natural history that we may relate it here. One knows that the main passes of Mobile Bay have been reinforced by Confederates by means of destructive devices known as torpedoes (nowadays, we would say 'mines.') and set up in such a way as to explode under vessels which would touch them when passing over. After some time, the metal enclosure of these terrible machines is covered to such a degree and encrusted by sessile molluscs and balanoids that the motion of the exterior pin whose sudden release causes the explosion, has in most cases become impossible. This unforseen intervention has greatly facilitated the naval operations of the admiral who commanded the forces of the North in these regions and perhaps saved him from disaster. Thus, also, the molluscs give their opinion in the American conflict: they oppose the war. If the members of the congress, now that the war is over, were not so busy quarrelling amongst each other, they would have a fine occasion to bestow some 'diplomes d'honneur.'"

From: TEXAS CONCHOLOGIST
Vol. XIII, No. 1, p. 11, Sept. 1976

MALACOLOGY IN LITERATURE

In TIME Magazine (April 25, 1977) we read that, at a book auction at the Sotheby Parke Benet Gallery in New York, $2,750 was paid for two pages of an essay by nine-year-old Ernest Hemingway telling how a clam in his school aquarium caught a goldfish by the tail. Sorry, that's all the item stated.

mkj

CUBAN MOLLUSK IMMIGRANTS IN FLORIDA

Morris K. Jacobson

Not only did interesting people come from Cuba to Florida. A great many interesting plants and animals -- from butterflies to lizards and alligators -- came as well. Including some fascinating mollusks.

The most spectacular immigrant mollusk is undoubtedly the Florida Tree Snail, *Liguus fasciatus* Müller. This is easily one of the most handsomely colored land pulmonates of the world. It used to be found from the Florida Keys to Pompano Beach north of Miami, and Craig (1973) reported the presence of a small colony as far north as Boynton Beach. It has disappeared from many areas and some color forms have vanished. Nevertheless it is encouraging that at least one recent student (Robert S. Voss, 1976) does not feel that it is an endangered species. It is flourishing vigorously in hammocks now largely preserved in county, state, and federal parks.

There is no doubt that the ancestors of this lovely Floridian species all came from Cuba. Simpson (1929) writes that many "snails in Cuba are closely related to our forms and without doubt are their ancestors, often scarcely removed varietally." They arrived in Florida strongly cemented by their epiphragms to trees which were hurled on the Floridian coast by violent hurricanes blowing from the direction of Cuba. Dr. Simpson (loc. cit.) gives a very thorough account of the way they landed.

It is generally recognized that in Florida we have only a single species of *Liguus* with several very doubtful subspecies (Pilsbry, 1946, lists 8) plus a large number of named varieties and color forms. Anyone interested in studying and making a collection of the whole gamut of these "horticultural" varieties is referred to Simpson (1929) and Pilsbry (1946). A whole group of *Liguus* fanciers has grown up and still flourishes. An interesting history of *Liguus* collecting has been published by Ralph H. Humes (1965).

It is interesting to note that further -- and final -- proof that the presence of *Liguus* in Florida is due to hurricane-driven tree-rafts from Cuba can be seen in their haphazard distribution of color and other varieties in the hammocks they occupy. Had they been a native form, their distribution would have been more regular and clines of forms could have been worked out by students. Instead, the distributional pattern clearly shows signs of the erratic landing of snail-bearing trees -- often a single gravid snail on a single branch -- thus giving rise to a single distinguishable population on an isolated hammock.

Nor need the time it takes such varied populations to appear on different hammocks be very long. Jacobson (1966) showed how in a period of about 25 years at least six distinctly different populations of *Cepea nemoralis* (Linnaeus) appeared in Rockaway Beach, New York, on lots isolated one from the other by the intervening paved streets. Similar rapid "speciation" has been noted in the *Partula* of Tahiti and *Achatina* in the islands of the South Pacific.

Three other undoubted immigrants from Cuba are all members of the family Urocoptidae. These are Poey's Truncate Rock Snail (*Cochlodinella poeyana* Orbigny), the Pontiff Rock Snail (*Microceramus pontificus* Gould), and the Floridian Rock Snail (*Microceramus floridanus* Pilsbry). *Cochlodinella* has a small, horn colored shell about ½" in length and quite narrow, slightly tapering, with many whorls. This species, like most urocoptids, has the habit of knocking off its early whorls as it matures. The name Urocoptidae means "cut off tail" in Greek. The immature shell, which is lost, looks quite different from the mature one. It is far narrower and bears a bulbous protoconch at its tip. Both *Microceramus* species look much alike, differing only in size. The Pontiff Snail is lower, wider, and dumpier in shape than *Cochlodinella* and does not knock off its early whorls. It is whitish with a cream or brownish tinge and marked by irregular, coarse, oblique ribs terminating in white papillae at the suture. *M. floridanus* is smaller -- about 1/3" in height -- and has finer ribbing. *C. poeyana* and *M. floridanus* are quite common under rocks in extreme southern Florida and in the Keys. *M. floridanus* is less common and is found only in the Keys. *M. pontificus* has also been collected in western Cuba and *C. poeyana* is found in Matanzas Province, near Cárdenas, in Cuba.

Another shell which has very recently appeared in great numbers in southern Florida is the Cuban Caracole Snail, *Zachrysia provisoria* Pfeiffer. The shell is about one inch in diameter, yellowish, somewhat glossy, and covered with regular, rather coarse, densely set axial cords. The body whorl is large and there is no umbilicus. A friend gave me some specimens he collected on some of the busiest streets of Miami Beach City. Although originally a Cuban species, it has also been found commonly in the Bahamas. It is possible that the Miami Beach specimens originally came from there.

To these Cuban immigrants we may also add the Dentate Land Periwinkle, *Chondropoma dentatum* Say, and the Tiny Lucidella, *Lucidella tantilla* Pilsbry. The former is a small, oblong conic shell, with a dull rough surface, and unevenly spaced tiny, toothlike serrations at the suture. It has a small, oval, horny operculum with a thin, limy outer layer. It is light tan in color, occasionally with faint spiral bands or rows of spots. It occurs quite commonly on and under rocks from Miami southward. A very close Cuban relative is still found in Matanzas Province. The Tiny Lucidella is only 3mm in diameter (about 1/8"), faintly yellowish in life, and is most readily recognized by its completely closed umbilicus. It is found in several of the Florida Keys and also on some of the islands off the Cuban coast.

A final species is less certainly of Cuban origin. This is the Florida Peanut Snail, *Cerion incanum* Binney, which is common in South Florida and especially on the Keys. It is white, sometimes with a bluish or flesh colored tinge, smooth, bullet shaped, with many flattened whorls and roundish aperture and a single small apertural tooth. It is exceedingly variable but nevertheless readily recognizable. It is found everywhere in unimproved land clinging to bushes, trees, and grasses but never very far from the sea. Occasionally specimens are taken with globs of reddish brown color and signs of strong vertical ribs. These may be the offspring of interbreeding with some foreign species which were introduced by Dr. Paul Bartsch in the Keys in 1912. *Cerions* are found from Florida and the Bahamas southward as far as Curaçao but are most richly developed in Cuba. Pilsbry (1946:161) indicates that an ancestor of this species was found as a fossil from the lower Miocene, and that typical specimens were taken in a Pliocene layer. Hence *C. incanum* may very well be a native species.

Cuban Mollusk Immigrants in Florida:

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(The above article was also contributed to and appeared in THE SHELL CASE (published by the Naples, Florida, Shell Club) Vol. 5, No. 1 (1977).)

NOTE: The following paragraphs are excerpt from an article by Mrs. Germaine L. Warmke entitled "Observations on Mollusks Collected on Bonaire, Netherlands Antilles," and appearing in OF SEA AND SHORE, Vol. 8, No. 1, p. 59, Spring 1977.

OBSERVATIONS OF LIVING CONUS

Germaine L. Warmke

During a recent shell collecting trip to the Island of Bonaire, which lies 60 miles north of Venezuela, I had the opportunity to observe and photograph several species of live mollusks. Four species of live cones were observed: *Conus regius* Gmelin, *C. daucus* Hwass, *C. ermineus* Born and *C. aurantius* Hwass.

Conus ermineus Born was the most interesting. The specimens collected ranged from 2 to 3¼ inches in length. This is a very aggressive cone; within minutes after being placed in the aquarium with a Music Volute, the cone headed directly towards the volute. The cone's siphon was erect, and the proboscis was extended over an inch when the cone attacked, instantly paralyzing the volute. The volute turned over on its side and never recovered. The cone animal is cream colored, with orange tinting at the edge of the mantle and the siphon. Of all the Caribbean cones, *C. ermineus* is the most likely to prove dangerous and should be handled with care. In 1960 I made radula preparation of seven different species of cones found in Puerto Rico and Caribbean (*The Nautilus*, Vol. 73, pp. 119-124). Although all cones have a poison gland and are capable of injecting a venom into their prey by means of detachable, spear-like, radula teeth, the

the tooth structure differs from species to species. Of those studied, C. ermineus (then called C. ranunculus), was the only species with radula teeth matching the structure type found in the venomous C. striatus Linné from the Indo-Pacific.

In contrast, the other three species of cone were very placid; they did not disturb other mollusks in the aquarium. The fragile nudibranch, Tridachia crispata Mörch, climbed over Conus aurantius without being disturbed by the cone.

Conus aurantius is found only in the Netherland Antilles. At first glance it resembles Conus regius; however, it is quite slender, and the spire is more elongate and lacks the strong nodules which characterize regius. The animal is bright orange to red, matching the basic color of the shell. It would be interesting to compare its radula with that of the common regius. I would suspect that, like regius, the teeth of aurantius possess a spur at the base, which is characteristic of cones that feed on tube-dwelling polychaete worms.

All specimens were found in water less than 25 feet deep, most in 10 feet or less. Unfortunately, collecting of shells has recently been outlawed on Aruba, Bonaire and Curaçao.

(For other items on Conus see NYSC NOTES No^{s}. 152:4, 230:3-5, 231:2)

NOTES ON THE SPAWNING OF UROSALPINX AND GEMMA
and a Settling of Barnacles

On a field trip to a North Haven beach April 2nd, Linda Springer collected a few oyster drills, Urosalpinx cinerea (Say), to observe in an aquarium. She placed the aquarium in a finished room in the basement where temperatures were a few degrees lower than in the main rooms of the home, as the water from which the snails were collected was still quite cool. Mating was observed April 13, and deposit of egg capsules commenced April 15. The eggs developed and viable young hatched over a four day period, June 5-8, after an incubation of 51-55 days. When observed June 8th the females were depositing new clusters of egg capsules, these deposits also starting two days after mating was observed.

On April 12th the Raeihles visited Center Island Beach at Bayville to explore the flats onaa very low tide. There were numerous mud snails, Ilyanassa obsoleta, but no egg cases of this or any other species. These with some periwinkles, Littorina littorea, and blue mussels, Mytilus edulis, were the only live mollusks found on the Sound beach. But new barnacles were everywhere; they ranged from 1 mm to 2½ mm, with settling larvae in between them. At these stages the young barnacles and those in the late cyprid stage are a rusty red in color, and they coated the normally dull rocks until they appeared as red sandstone.

Moving across to the Bay, screening yielded 8 adult (to 5 mm) Gemma gemma (Totten). They were kept in sea water at room temperature and within hours started to deliver young: first day, one; next day, fifteen; then there were fifty -- and by the end of ten days there were too many to count. The young measured .3 mm across their transparent, glassy shells; the siphon and foot showed shadowy white. They remained active for over two weeks.

Dorothy Raeihle

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NEXT MEETING: SUNDAY, SEPTEMBER 11, 1977, at 2:00 PM

PROGRAM: A TRIP TO ST LUCIA (with color slides)
by Frank Nelson
MOLLUSKS IN LITERATURE by Karl Jacobson

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HIGHLIGHTS OF THE JUNE MEETING

The annual election of Club officers was presided over by Ed Cowles, chairman of the nominating committee. He reported that all incumbents had been asked to continue, and had accepted nomination. Since there were no nominations from the floor, a motion was made that the secretary be empowered to cast one vote for the entire slate. The motion was carried.

The first speaker was Karl Jacobson, who described the basics of the process of naming shells, including the types of errors that result in synonyms and homonyms. (See: NAME THAT SHELL! beginning on page 2 of this issue. -Ed.)

The second speaker was member Michael Torrusio, who is employed by the Estuarine Data Corp. In working on the company's Lemon Creek project, he became interested in the clamming and oystering industry. His subject was the history and present status of the industry in the waters of the New York City area. He noted that the Indians had gathered annually in the fall, near shell beds, partly for the purpose of stuffing themselves with clams and oysters "for the winter." The first legislation against depletion of local beds was enacted in 1715. A typhoid epidemic forced the first close-down of the industry in 1916. Since then there has been a succession of closings and re-openings, ending, for the time, with the closing of beds from Great Kills to Ward's Point, Staten Island, in 1963. Since beds in either direction are open, and since the waters of the region are cleanest along the eastern edge of Staten Island, he wonders whether politics might be involved.

Ethelyn Woodlock showed slides of her current exhibit in the Bergen Community Museum, Paramus, New Jersey. The showing included shells, shell paintings in her own exquisite style, shell curios, and miniature rooms in which tiny real shells were displayed. (The exhibit, INSPIRED BY SEASHELLS, was on display for two months, ending on July 3rd. -Ed.)

Milton Werner, Recording Secretary

NAME THAT SHELL!

Morris K. Jacobson

(A talk delivered to the New York Shell Club June 12, 1977)

Here I'm talking about the true name of a shell, not the "common" or English name. Rather the scientific, zoological, latinized name, presumably the one name in use by all zoologists all over the world. I won't go into why we need this name as everybody has already discussed this: the ambiguity, the confusion, the irregularity of common names etc. etc.

It would seem to be the easiest job in the world: Find a shell which has never been described or named in print; go ahead and describe it and give it a name. That's the way it should be, but it just isn't. It's a lot more complicated. There are many pitfalls, some obvious, others tricky. The most obvious ones are almost all the result of insufficient research which is usually caused by a deficient reference library. What are some of these pitfalls? Number one: How do you know the shell has never been named before? The literature in which shells have been named and described has been accumulating since 1758 and appears in many languages in all sorts of prominent and obscure publications located in all parts of the civilized world. So just saying, "Gee, I never saw this kind before!" does not mean that it is new to science. If, however, you did look in all possible sources, but overlooked the one you never knew existed, then you have created a synonym, a second later name and thus, under the law of priority (which states that the earlier name is the more valid one), a useless name. But it should be borne in mind that synonyms are not always total losses. How come? Suppose that in the future somebody finds that the earlier name, the one that reduced yours to a synonym, for some reason is actually not so good, then your synonym, which has been lingering in limbo, if it is the earliest synonym, now takes on the robes of validity and you can shine in its reflected glory. That's reason number one.

Now, reason number two: Suppose you make up a nice euphonious name and the species really is new, but it turns out that those very words and combinations of letters have already been used before by someone describing an entirely different species. In this way you have given birth to a homonym, words that look and sound alike but refer to different objects. And although a synonym can be revived, a homonym never. It is born dead, 'totgeboren,' it never had life. Thus, even if the earlier name, the one that sounded just like yours and made yours a homonym, turns out to be invalid or is put into another genus, and even though your homonym is earlier than any replacement name, your homonym cannot take its place. Let's stop for a minute and see what happens to your name when it is discovered to be a dead-born homonym.

If your colleagues are polite, and if you're still alive when the discovery is made, they should notify you and give you a chance to replace the homonym with a non-homonym. Of course, if the original name was trailing some synonyms along with it, then any one of these takes its place. Does your colleague have to notify you that you've committed a homonym? Not necessarily, and in the past some real meanies often did not. The worst of these was one Embrik Strand, who made it his life's work to replace homonyms or otherwise invalid new or even old names. And by doing this he turned out not only not to be a gentleman, but also what Pilsbry called "a nomenclatural pest." Much of Strand's material was published in Latvia. You might like to hear how he worked.

The whole trouble was based on the fact that Strand was working in fields which he knew nothing about. It is obvious that if anyone wants to make changes in names he should know something about what they stand for. Only experts in the field are knowledgeable enough to do this properly. Strand, however, was interested mainly in changing names and then adding his own to the new combination as the author, although he had nothing to do with the work that went into selecting and describing the new taxon, or even knew anything at all about the taxon. He was a bookworm and wormed his way though all sorts of published material with the one aim of finding names he could legally if not morally or even scientifically replace. The trouble was, of course, that many of the homonyms and synonyms and and otherwise defective names which Strand discovered had already been rejected earlier by experts as useless forms, not worth a new name. Thus the result of Strand's activity was that scholars had two useless names to contend with instead of one, that is: the original useless name and now the "replacement" for it by Strand. (I discussed this gentleman in more detail in a short article in NOTES 218, p. 2, January 1976.) So far we have discussed, with a large digression, points one and two. Now for point three:

A third reason why names may be rejected and others substituted for them is that the author was wrong in assuming the specimen or specimens to be new. They may be mere color varieties of an already named species, or the juvenile stages, or it may well fall within the range of natural variations. This, the third reason, is the one that causes most of the mischief. In causes one and two (synonyms and homonyms) the decision is objective: the species is the same or the name is preoccupied and no one can raise a quarrel about that. But in the present case the decision has to be subjective. "It is, too, different. Any schoolboy" (Oh, the omniscient schoolboy!) "can see that it is different." "Wow! Any fool" (now the fool becomes omniscient!) "can see that it's the same thing!" And so on and so on. It is sad but true that many of these debates have not to date been really resolved and some species parade around bearing two or even more than two names.

At this point it is proper to introduce the two huge irreconcilable schools of malacologists: the splitters who give names to everything "different," and the lumpers who throw all sorts of names together and regard them as referring to a single species. Collectors look on with dismay as this unquenchable feud goes on, and are seized with paralyzing doubts when it comes to add a new item to their collection in order to complete -- or not complete -- the whole cycle of species found in their favorite family. One sad reason for this bitter feud is that there are personal reasons involved and it might be worth our while to think about the question: Who are the people who have more than a scientific interest in zoological names?

First of all, sad to relate, comes the devoted, selfless scholar in his isolated laboratory, working indefatigably on his magnum opus, the goal and aim of his whole existence. The work is about done and really wouldn't it be a pity if after all this vast amount of sweat and tears, the entire field of names where he worked would remain just as it was before the world became the beneficiary of his own zealous efforts. Thus split a few names off here, fuse some together there. A typical statement in the introduction to many of these works: "The present field has been sadly overnamed and a strict revision calls for the elimination of numerous earlier taxa." Then, in the course of the work, an even larger number of names is introduced, so the result is not always brilliant clarity. Often the name changes involved are more than on the specific level and new genera are introduced or formerly introduced subgenera are raised to genera. This type of splitting is even worse than mere splitting of species, since they involve a whole slew of changes: every species in the genus now has to get a new first name. The recent murex book is a good example of this. To sum up, one type of person who benefits from splitting, or lumping and splitting both, is, sadly, the student himself. I don't mean to imply that there is anything dishonest in this type of work. What seems to happen is that when students concentrate on a single, sharply delimited area, some sort of bemusement takes place and very fine subtle differences, hardly visible to the outsider, become very clear and important to the engrossed worker. Sterki with his Sphaeriids and Lea with his Naiads are good examples, and there are others. The student is not trying to fool anybody; he really sees the differences which remain obscure to most of his readers.

Others who benefit from excessive splitting are, as I pointed out in an article in NOTES 215, p. 4, October 1975, some unscrupulous shell dealers who of course can sell more shells if they have more names. And finally, as I also pointed out, there are the mihi itch people, who just live to introduce novelties valid or not, into the literature, so that their names can appear in print for ever and aye.

But the quarrels which arise from point three may not always remain unresolved. Recently studies have appeared based not on subjective morphological descriptions to establish new taxons, but on strict statistical methods -- the computer more and more is taking over and when that speaks more and more people will learn to listen. Good examples of this is the study of the American land shell genus Triodopsis by Joseph Vagvolgyi in 1968 and the huge study of the freshwater mollusks of Canada by Arthur H. Clarke in 1973. In both these works difficult problems of nomenclature were treated by the statistical method and valid results were obtained. And there are other such studies. In addition there are sophisticated biochemical and cytological studies, and studies dealing with antigens and chromosome counts and other, to me, incomprehensible devices. At present not everyone is happy with this new development, but the first steps have been taken and with time improvements will be made. Perhaps then in time the splitters and lumpers will lay down their arms and peace will descend on the world of nomenclatural zoology.

I'd like to deal with two more subjects briefly. First, what is a zoological name? Easy question. A zoological name is any group of letters written together in a latinized form. Does it have to mean anything? Not necessarily, though it's nice if it does. Does it have to be pronounceable? Again, not necessarily. The names shells are given are mainly meant to be written and not, primarily, meant to be spoken. Thus even Russians and Japanese may not use their own alphabets when referring officially to these nomina; they must use our Latin letters. But there are no rules for the pronunciation of these names and Tucker Abbott's recording of names is, as he announces, a personal opinion. God knows what the Russians and Japanese do with the pronunciation of these names: *Tellina agilis*, *Mercenaria*, etc. (*Terrina agiris*, *Myertsyenyareeya* ?). But let's not laugh. We English users are bad enough. Do we say *playna* or *plahna*, *pilsbry-ee* or *pilsbry-eye*, *tell-eye-na* or *tell-ee-na*, etc. We drive the German, French, Spanish and Italian malacologists nuts. But sometimes we get punished. Often place names or proper names are used to form a zoological name, thus *przevalski*, *kuschakewitzi*, *nakayasui*, *ufyalvyanus*, *popouwelensis*, *makahaensis* etc. etc. (All these are names actually given.)

But we're not entirely guiltless. What, for instance, will a Frenchman or a German or a Japanese do with the name *whoii*, given by Dr. Ruth Turner of Harvard to honor the Woods Hole Oceanographic Institute? What do we say: *hooi*, *whoai*? And the others: *v-haw-ee*, *vawhee*? A little later I'll give a real zinger of a name, which fortunately was not allowed by the International Commission.

Which brings me to my second and last subject. Yes, there is a constitution for zoologists and a supreme court to hear cases and make decisions -- called opinions in our craft. The constitution is called the International Code of Zoological Nomenclature with articles and sections and a whole slew of amendments and legal decisions. The court is called the International Commission on Zoological Nomenclature and meets once every ten years to issue its decrees (opinions). There is almost as much to say about this court as there is to say about our own supreme court in Washington. So I won't bother. But I ought to make just a few remarks about its functions.

I can do this best by first saying what the court does *not* do. The most important point is that it has absolutely nothing to do with zoology or biology as such; this it has to leave to the experts in their many fields. Its function is purely legalistic and deals only with names and words and its decisions always end up proclaiming that this name is to be used and not that other. It even issues a list of available names at regular intervals.

Here again it might be well to delimit precisely the field of the systematist and the nomenclaturist. Rudolf Richter in his commentary on the code (1948) puts it well. He wrote that what actually happens is that a scientist, working in his tiny little niche, finds something which he decides is worthy of nominal distinction, whether as a genus, subgenus, species or subspecies or whatever. Now he turns, figuratively of course, to the nomenclaturist and asks him to please give him a good, clear name which is free of all sorts of objections. The nomenclaturist now turns to his vast file card and says, "Look here, you can use this name safely enough, it's no synonym or homonym of anything." And the function of the International Commission is limited to the second part of this little imaginary conversation only. Thus the International Commission has no right to determine if something is good enough to be a species or only a subspecies or nothing. All that is the field of the zoological experts who will fight it out in published articles or face to face in conventions. The ICZN interferes only if problems regarding the names themselves arise and then only if someone intervenes and submits a brief. It cannot take up cases by itself, just like our supreme court.

The ICZN has another important function which our supreme court does not have. That is it can, if it is convinced that it is to the good of the whole body of zoological nomenclature -- or rather if some scholar has convinced it that it is so -- it then has the right to suspend the rules to allow a later name to stand even though there is an earlier, less well known name available. It can also reject names (Notice: only names, not species or genera) for other reasons. I discussed one such case in an article in NOTES 154, p.3, September 1969. It involves some names submitted by one Dybowski for some small beach fleas from Lake Baikal in Russia. Now Dybowski wanted to name a new species of beach flea, and beach fleas fit into the genus Gammarus. So he had Gammarus. But this species of Gammarus had spines, so he took the Latin word meaning spines and made up Echinogammarus, or spiny beach fleas. But Dybowski had a friend whose name was Siemkiewitsch whom he wanted to honor, so he added that name to his -echinogammarus and came up with SIEMKIEWITSCHIECHINOGAMMARUS. He also came up with other names like Cancelloidokytodermogammarus with the subgenus Loveninuskikytodermogammarus etc. Now only a nut would stick with names like these, so some people from the United States National Museum raised official objection to the ICZN and the names, thank heavens, were set aside and Dybowski had to make up new, more mouthable names.

I have succeeded in saying only very little about the whole problem of nomenclature. But I've bored you enough. Thank you.

REVIEW:

MUREX SHELLS OF THE WORLD

by G. E. Radwin and A. D'Attilio. Stanford University Press, 1976

(NOTE: This review differs in several respects from one run earlier. The work is such an important one for many shellers that opinions about it deserve the widest range of comments. --Ed.)

This is an impressive book, handsomely printed and bound, with numerous illustrations in color and black and white. The obvious amount of research, time and effort expended in its preparation is also very impressive. It is, nevertheless, in certain respects, a most disturbing book.

Before proceeding, the reviewer hastens to admit that the consideration of a taxon as large and complex as the Muricidae, even as limited by the authors, involves dozens of subjective decisions, particularly with regard to the validity of various genera, the assignment of species to such genera and the omnipresent controversy regarding "splitting" and "lumping" at the species level.

At the outset, the authors state clearly (pages 1 and 2) that they have decided to favor "splitting" at the generic level and "lumping" at the specific level. They further state that they consider subgenera and subspecies as being incapable of adequate definition, or at least as being inadequately defined, and therefore unusable. These decisions must be continually kept in mind in using or evaluating the work.

Within this framework, many of the subsequent descriptions and synonymies make considerable sense, and reflect, in some cases, considerable insight into differences and similarities. For example, the association of Murex lividus Carpenter 1857 and M. tricoronis Berry 1960 with M. elenensis Dall 1909, rather than with M. recurvirostris Broderip 1833, seems sensible. (Whether they are conspecific, subspecies or separate species is another matter!)

Nevertheless, there are certain areas in which the reviewer feels that objective and valid criticism is warranted, to wit:

1. While purporting to be a comprehensive survey of the Muricidae, a considerable number of validly introduced names are completely ignored, including some which are not very obscure. For example, *Murex tribulus* Linné 1758 is considered to include *ternispina* Lamarck 1822, *aduncospinosus* Beck in Sowerby 1841, *nigrispinosus* Reeve 1845, and *carbonnieri* Jousseaume 1881 as synonyms. (This will strike many dealers and collectors, and perhaps some students of the family, as a regression to the time of Linnaeus.) But what of *M. crassispina* Lamarck 1822, *M. concinnus* Reeve 1845 and *M. acanthostephes* Watson 1883? Are they also synonyms of *M. tribulus*? We are not told, and they are not listed as "incertae sedis" on page 217.

2. The descriptions of species, while consistent and largely adequate, contain few comparative remarks, few explanatory statements and little, if any, reference to the work or opinions of other students of the family. Space limitations, presumably, dictated this approach, in part, but the reviewer, for one, gets an impression of "take it or leave it" and inevitably wonders, for example, if holotypes have been compared, how many specimens have been examined, why certain decisions have been made, etc.

3. The illustrations are, for the most part, excellent and typical, but those of some of the smallest species are reproduced at a size which makes their use for identification all but impossible. Incidentally, Plate 17, figure 3 is almost certainly *Siratus formosus* Sowerby, rather than *S. articulatus* Reeve, and Plate 23, figure 14 is almost certainly an unusually large specimen of *Muricopsis cristatus* Brocchi, as stated on page 167, rather than *M. blainvillei* Payraudeau as on page 166 and in the plate legend.

4. Finally, one gets a very definite impression of inconsistency in treatment. There is considerable "lumping" in some of the larger and better-known genera (*Murex* s.s. is an example) but a tendency in the other direction in some of the smaller genera, particularly *Aspella*. Also, some rather similar species groups -- *Siratus cailleti-perelegans*, *Siratus senegalensis-tenuivaricosus*, *Phyllonotus pomum-peratus-margaritensis*, are maintained as separate species, while others with seemingly as great differences -- *Siratus senegalensis-springeri*, *Murexiella humilis-laurae-keenae*, *Murex elenensis-lividus*, and others, are synonymized. The latter statements are, of course, subjective, and open to argument.

The reviewer offers the foregoing criticisms with a certain amount of doubt, in some cases. There is, however, little doubt that the book will result in controversy, or that it will, in spite of differences of opinion, be a useful reference work to hundreds of collectors, students and researchers in the field of malacology.

Earl H. Reed
Asst. Director, SSM
Springfield Science Museum
Springfield, Massachusetts

AMERICAN MALACOLOGICAL UNION CONVENTION

The 43rd Annual Meeting of the American Malacological Union, held July 10 - 15 in Naples, Florida, was a very well attended -- over 200 members and guests -- and exceptionally well conducted affair. The accommodations in the Beach Club Hotel on the shores of the Gulf of Mexico were luxurious and the program excellently organized and presented. Of particular interest was the symposium conducted jointly by the AMU and the Systematics Association on the EVOLUTION AND ADAPTIVE RADIATION OF THE MOLLUSCA in which a number of prominent British scholars took part, including Dr. Arthur J. Cain of the University of Liverpool. Abstracts of these talks appeared in the printed program (which had a striking cover designed by Mr. Hal Lewis of Philadelphia) and the complete lectures will appear in a future number of the periodical MALACOLOGIA.

There were several field trips, the writer participating in the one to Hammock 88 where, for the first time in his life, he collected about a dozen or so live Liguus from high up on some smooth-barked trees. These specimens will be released on the grounds of Mrs. Jeanne Whiteside's home on Merritt Island, Brevard County, Florida, an area far north of the natural limits of Liguus but possessing the same climatic and faunal conditions of Southern Florida where Liguus abounds. It will be interesting to see if the colony can maintain itself. It was good to see Dr. William J. Clench of Harvard University, a renowned "Ligger" and "Lig" expert who is about to celebrate his 80th birthday, plodding along vigorously with the entire group unhindered by the heat, closeness, humidity, mud, briars, and mosquitoes -- conditions which were for a moment too much for this writer. There were other field trips for fossilers and dredgers.

A book auction conducted by William Old with his customary verve brought in a gratifyingly large sum of money for the treasury of the AMU. The annual banquet, a sumptuous affair, was preceded by a decorous cocktail party on a beautiful lawn right on the shores of the Gulf. Mosquitoes were absent, the weather cooperated, and the sunset clouds over the blue Gulf water quite enchanted everyone, even those with more than one martini inside. Dr. Cain's lively and witty banquet address kept the audience in a constant state of delighted laughter. The Texas contingent again favored us with the usual generous Texas Party which broke up, finally, in the early hours of dawn.

All in all, this convention, chaired superbly by Dr. George M. Davis of the Academy of Natural Sciences of Philadelphia, was one of the most impressive and successful I have ever attended. Much of the success of this event is largely due to the tireless efforts of the Naples Shell Club under the chairmanship of Mr. Jerome M. Bijur who spared no efforts to make everyone happy.

Dr. Carol B. Stein of Ohio State University will serve as president of the AMU for the next year; William E. Old of the American Museum will serve as president-elect. The 44th annual meeting will be held early in July, 1978 in Wilmington, North Carolina -- a place of easy access to members of the New York and Long Island Shell Clubs and other groups in the northeastern area.

M. K. Jacobson

NEW YORK CITY MOLLUSCAN FOSSILS

Morris K. Jacobson

Colus stonei Pilsbry, 1892 was described by Dr. Pilsbry (as *Chrysodomus* (*Sipho*)) on the basis of shells sent to him by Witmer Stone (after whom the shell is named) from Point Pleasant, New Jersey. Other specimens were sent from Sea Isle City and Cape May, also New Jersey.

Colus stonei is an extinct species occurring as a fossil in Pleistocene deposits along the coasts of New York and New Jersey. Specimens are occasionally found washed up on the beaches as far south as Cape Hatteras and the species has been collected in fossil beds on Gardiner's Island at the far eastern end of Long Island, and on southern Nova Scotia. The shell differs from other species of *Colus* by having a shorter, dumpier shape, a deep suture and swollen body whorl, and a surface covered with prominent cords. Some authorities place it in the genus *Atractodon* Charlesworth.

Although I have examined numerous examples of this species in private collections and in museums, the only specimens I ever found in Rockaway Beach are figured in the accompanying illustrations.

Collectors should keep their eyes open for this unhandsome but extremely interesting species.

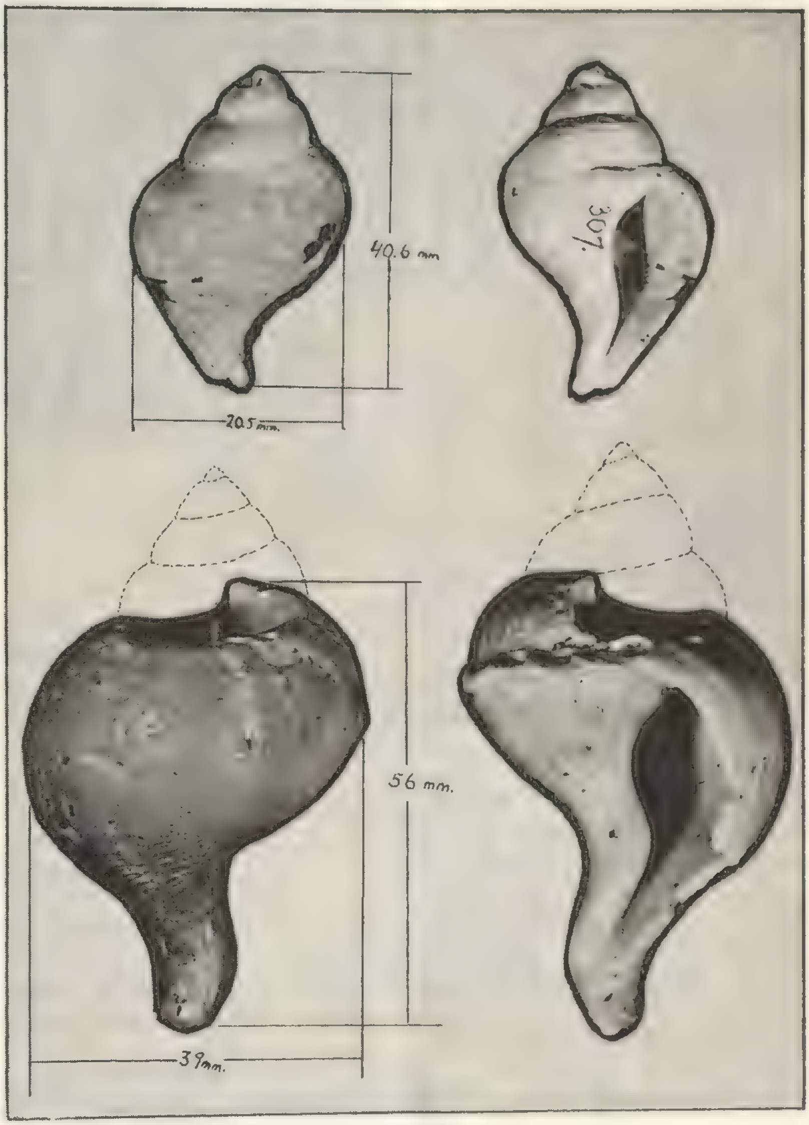
40.6 mm
20.5 mm.
307
56 mm.
39 mm.

Illustration by Ed Carswell of *Colus stonei* from Rockaway Beach, New York.

Upper specimen 40.6mm long x 20.5mm wide.
Lower specimen (without spire) 56mm long x 39mm wide.

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FOUNDED JAN. 1949

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The NEW YORK SHELL CLUB meets on the second Sunday of each month, September through June, in

ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, OCTOBER 9, 1977, at 2:00 PM

PROGRAM: SHELLING IN THE FLORIDA KEYS (with color slides) by Richard Goldberg

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OCTOBER: Ethelyn Woodlock will have shells, paintings, and a lecture at the River Edge (New Jersey) Library. Try to visit.

NOVEMBER: At our November 13th meeting, Bruce Einsohn will describe how to find land snails "in your own back yard."

"NOTES" NEWS

Many of you know that Karl Jacobson, founder and for many years the editor of these NOTES, is no longer a full time resident of New York, having purchased a lovely wintertime home in Florida. Our best wishes to him in his "retirement." We'll miss him this winter but Florida clubs will undoubtedly benefit as he has not retired his interest in mollusks. Thus we look forward to continuing to receive his lively conchological and/or malacological reports as he relaxes in his new role as associate editor.

The publication committee is happy to welcome our new editor, Michael Torrusio (see: cover). Members will recall his excellent presentation at our June meeting on the clamming and oystering industries in Raritan and New York Bays, past and present. We suggest that you deluge him with material for these NOTES.

ITEM: Long time NYSC member Edward M. Slater of Port Washington, New York, is the author of a brief but extremely interesting book entitled BASIC HUMAN NATURE ... REVISITED. Vantage Press, N. Y., $4.95. And M. K. Jacobson has just had another book in the Wonders Series published by Dodd, Mead & Co., New York. Price $4.95. It is called the WONDERS OF STARFISH and was coauthored by Dr. William K. Emerson of the American Museum of Natural History.

...In France, a printer's error is a coquille... (From: Editing Notebook (Bulletin, McGraw-Hill Book Company) Sept.-Oct. 1968.)

Contributed by Milton Werner

SHELL MUSEUM OF THAILAND

by Morris Levine

"I was first persuaded by H.R.H. Princess Phanthip Boriphat, consort of Prince Boriphat of Nakhon Sawan, to start a shell collection as a hobby, and started to buy shells from the Sanam Luang weekend market in Bangkok with a modest sum of 1,000 baht ($50) in 1973." Such was the humble beginning of the Shell Museum of Thailand, located about 25 kilometers from Bangkok, which houses one of the finest collections of shells in Southeast Asia, that of Mrs. Urai Bhotiwihok.

Having read about the collection and being a shell collector myself, I started out one morning, accompanied by my wife and son-in-law who is conversant in Thai, to visit the museum. Arriving there we found the gates closed, and were informed by the caretaker that the museum was now open only weekends. After telling him that we had traveled half way around the world to see the collection, he was persuaded to seek permission for us to enter.

In a short while the gates opened and we were ushered in to a beautiful garden landscaped entirely by Mrs. Urai and her husband, Air Chief Marshall Swasdi Bhotiwihok. Leading us to a small house alongside the main building, the caretaker opened the door and we beheld case after case of some of the most beautiful and colorful shells in the world. The collection includes a number of rare and important specimens, including Cypraea aurantium, Conus bengalensis, Harpa costata and the rare and beautiful flower-like Angaria sphaerula which is native to the South China Sea. On one side was an entire case of vividly colored land snails in rows of green, yellow and rose. Special exhibits illustrate the growth of shells, the beauty of their cross-sectional views and their broad classification into families.

Soon Mrs. Urai, a vivacious attractive woman who speaks with her eyes and gestures gracefully with her hands, appeared and filled us in on the details of how she started her collection and what she intended to do with it. With her children grown, she became involved in the hobby and realized that a place was needed to display the growing collection. An initial investment of two million baht ($100,000) was spent in building the museum and procuring fine shells for it from all over the world. An inveterate traveller, Mrs. Urai was able to get shells in almost every country she visited, choosing her specimens particularly for their beauty. She confided that a few years ago she picked up a Conus bengalensis for about twenty-five cents. The organization of the museum was accomplished with the expert assistance of conchologist Dr. Kamphol Issarangura Na Ayudhya.

We were taken to a cozy apartment above the museum where Mrs. Urai's husband maintains an interesting collection of fossils. A small study room with a library of books relating to shells and fossils is also located on this upper floor.

A wonderful hostess, Mrs. Urai invited us to have coffee with her in the main house. The rooms, decorated with furniture inlaid with mother-of-pearl, gave us the impression of being in a palace.

Continuing the conversation, Mrs. Urai informed us of some of the objectives of the museum: to provide an attractive and educational addition to the tourist industry; to promote the appreciation of the shells by the general public; to encourage new collections either as hobbies or to lead to business ventures. As a result of the present increase in interest, fishermen now find collecting shells to be a profitable means of increasing family income. Designers in the Thai fabric industry have studied her shells for their variegated forms and color schemes.

Closest to her heart, however, is the placing of the museum at the disposal of charitable institutions for fund-raising purposes. On these occasions, proceeds from entrance tickets and from the small shell shop next to the museum are donated to a particular charity.

Although Mrs. Urai indicated that she is not as active a collector as in the past, the museum is very well maintained and well worth a visit not only by those with a special interest in shells, but also by the casual visitor wishing to learn more about these fascinating and beautiful creatures of the land and sea.

From: SAWADDI of March-April 1977
Bangkok, Thailand

RECENTLY NAMED CYPRAEA

by Phillip W. Clover

(FOREWORD by William E. Old: Usually only a few specimens are known when a shell is first described as a new species. As more specimens become available, some are recognized as distinct species, while others are later considered as variants of well-known species. For a time newly described shells command high prices. This is especially true with Cypraea, which are one of the most popular shell families with collectors. As an example, none of the "new" Cypraea mentioned herein are represented in the collection of the American Museum. Even if available, we would be unwilling to pay the exorbitant prices asked. An example of "how the mighty have fallen:" A few years ago a shell (not a Cypraea) was offered at $1,000 apiece solely because it was a "new species." Today the same shell fetches 1/1000th of that figure!

Mr. Clover's article appeared in FESTIVUS, publication of the San Diego Shell Club, Vol. VII, No. 6, June 1976.)

* * * * * * * * * * * * *

Since Dr. Burgess published his LIVING COWRIES in 1970, many new species of Cypraea have been named. Because there was a four year delay in its publication, the last photographs of new species in his book were named about 1966. Recently a new book, COWRIES, by Taylor and Walls, has illustrated many of these. The article below will attempt to cover all the species named since 1966 with information on when and where they were published and my opinion on their validity.

angelicae Clover, 1974: from West Africa, size 19-30mm, mostly trawled 40-80 meters off Gulf of Guinea. It is similar in size to petitiana Cross. Published in Journal of Conchology, Vol. 28-4, London, England.

bernardi G. Richard, 1974: from Tahiti, Fr. Polynesia, size 12mm, found by divers in coral reefs. Looks somewhat like *cumingii* Sow. in color pattern only. Published in Bull. de la Societé des Etudes Océaniennes, Paris, France.

cruickshanki Kilburn, 1972: from Durban, S. Africa, size 20-33mm, trawled from 400-600 meters. A most unusual bulbous species that is not at all typical of most *Cypraea*. Has been illustrated in Hawaiian Shell News #169-6 and was published in Durban Museum Novitates Vol. 9-14-P209-16.

eugeniae Cate, 1975: from Albany, S.W. Australia on beach and from sand dredgings, size 20-35mm. This is a semifossil *xanthodon* Sow. in my opinion and not a new species at all. Published in Veliger Vol. 17-3-P260, Calif. U.S.A.

fernandoi C. N. Cate, 1969: from Zamboanga, Philippines, size 20-30mm. From low tide to several meters deep on coral reefs. Closely related to *rabaulensis* Sch. Published in the Veliger Vol. 11-3-P256, Berkeley, Calif., U.S.A.

fischeri astaryi Sch. & Sch., 1971: from Marquesas Is., size 12-14mm. This new subspecies is also similar to *cumingii* Sow. In fact *fischeri* Vay. was thought until recently to be a synonym of *cumingii* Sow. See H.S.N. #87 & 135. Described in Arch. Moll. 101: 297-299, Frankfurt, Germany.

gloriosa Shikama, 1971: from Taiwan trawlers that may have found it off South Africa. Considered a form of *gondwanalandensis* Burgess that is a new name for *similis* Gray. See H.S.N. #165-1. Published in Science report of Yokosuka City Museum, Japan.

haddnightae Trenberth, 1973: from Albany, S.W. Australia, size 25-35mm. A controversial new species close to *cribraria* Linné, but I think distinct. See H.S.N. #174 & 183. Described in S. Australian Museum Pub. #17.

hartsmithi Schilder, 1967: from Sydney Harbor, N.S.W., Australia, size 25mm. Another controversial species. Cate compares his *eugeniae* to it while H.S.N. had articles on it in #93 & 101 and relate it to a *Notocypraea bicolor* Gas. which equals *piperita* Gray and that is just what it is in my opinion. Described in Arch. Mollusk Vol. 96-P39-41, Frankfurt, Germany.

jeaniana C. N. Cate, 1968: from West Australia, size 55-95mm, mostly trawled but found by divers also. Described as a subspecies of *friendii* Gray. But I have seen so many specimens now that I firmly believe this is a separate and valid species. Furthermore, many of the orange/white patterned specimens called "*contraria*" coming from Taiwan trawlers could also be this species. As many new areas are being worked now by these trawlers, specimens with wide ranging color patterns are being found just as have been found in the more shallow water *friendii* and *thersites*. Described in the Veliger Vol. 10-3,P222.

joycae Clover, 1970: from Taiwan, size 50-58mm, only trawled in deep water, may be related to the small, unique, Philippine *porteri* Cate. *Joycae* is illustrated in H.S.N. #139 & 148 but not in the new COWRIES book by Taylor & Walls. The shell they illustrate on p.261 is a juvenile, West Australian *Zoila* species. Described in the Venus, Vol. 29-

2-P.35, Tokyo, Japan.

ju-kui Shikama, 1974: from Taiwan trawlers and again possibly found off S.E. Africa, size 30mm. Appears to be *Cypraea cruickshanki* Kilburn, 1972. Published in Science report of Yokosuka City Museum, Japan.

kingae Rehder & Wilson, 1975: from Pitcairn Is. S.E. Pacific, size 14-19mm, trawled 70-140 meters. Similar in size and color to *gaskoini* Rve., but not related. Rehder compares his species to the new *bernardi* Rich. Described in Smithsonian Contributions to Zoology #203-P2-6.

lisetae Kilburn, 1975: from Southern Mocambique, E. Africa, size 12-13mm. Known from two specimens only, so far, ex-pisces in 25 meters. Similar to *midwayensis* A. & K. Described in Durban Museum Novitates Vol. 10-16, P.217-20.

maricola Cate, 1976: from Marinduque Is. Philippines, size 14mm. Compared to *globulus* Linné by the author and is very close indeed except in teeth arrangement. Described in the Veliger Vol. 18-4 P.383, Berkeley, Calif., U.S.A.

midwayensis Azuma & Kurohara, 1967: from trawling in deep water near Taiwan. Not from 460 meters off Midway Is. as in original description. This is one of the problems in dealing with trawlers. Size 20-22mm, the new *lisetae* Kilburn is very similar. Described in the Venus Vol. 26-1 PI Tokyo, Japan.

miyokoae Habe & Kosuge, 1970 ? from Taiwan trawlers possibly off Thailand, size 39mm. Appears to be a slightly juvenile *lamarckii redimita* Mel., but more purple in color. This species was ready to publish in the *Venus* and was mentioned in the *Pacific Shell News* #2, but I cannot find out if it was ever described and would make it a NOMEN NUDUM.

perlae Lopez & Chiang 1975: from Onslow, N.W. Australia, size 42-50mm, One of the more interesting *Zoilas* being trawled off West Australia by Taiwan fishermen. It is similar to *decipiens* Smith except in color pattern. There are several new shells from this area called "*contraria*" that could that could be new to science or may be odd color forms of *jeaniana*. Most of these shells come up in nets of the large Taiwan trawling ships from 150-300 meters. *Perlae* was described in the Veliger Vol. 18-1 P-84&5, Berkeley, Calif., U.S.A.

queenslandica Schilder, 1966: from Cape Moreton, Qld., Australia, size 57mm. Burgess mentions it in his book and I agree it is a pyriformed *hirasei* Roberts. See H.S.N. #86-4, and most recent Australian shell books illustrate it. Described in Arch. Moll. Vol. 95: P157, Frankfurt, Germany.

sakuraii Habe, 1970: from S.W. of Taiwan, size 40-60mm. This species is close to *hirasei* Rob. but has more coarse teeth and in the adult shell develops a pattern quite unlike *hirasei*. See H.S.N. 130-8. Described in Bull. of the Biogeographical Society of Japan, Vol. 24-10, Tokyo, Japan.

steineri C. N. Cate, 1969: from Russell Is., Guadalcanal, size 22mm. This unique specimen appears to be a bulbous form of *coxeni* Cox and is not a valid species in my opinion. Described in the Veliger, Vol. 11-3, P.257, Berkeley, Calif. U.S.A.

stohleri Cate & Schilder, 1968: from Siasi, Sulu Sea, Philippines, size 15mm. Also unique and likely to remain so as it appears to be just a large, odd form of contaminata Sow. which also has its center of distribution in the Sulu Sea. Described in the Veliger, Vol. 10-4, P.382, Berkeley, Calif. U.S.A.

ARTICLE OF THE MONTH

"A description and experimental analysis of Batesian mimicry between a marine gastropod and an amphipod" is the title of a paper by Laurence H. Field in Pacific Science 28 (4):439-447, October 1974. His studies indicate that the gastropod Lacuna is mimiced by the amphipod Stenopleustes, both of which inhabit the blades of eel grass. If Stenopleustes swims, betraying its snail disguise, it is readily eaten by fish. These data suggest that the amphipod is enjoying a protective advantage from its mimicry of the relatively inedible snail Lacuna.

Henry D. Russell

WHAT SHELL IS THIS?

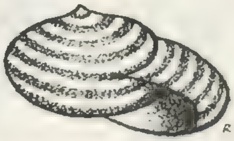
Morris K. Jacobson

In 1843 James DeKay (NATURAL HISTORY OF NEW YORK, MOLLUSCA & CRUSTACEA, p. 107, pl. 6, fig. 104) described a strange shell in the following terms: "Shell moderately solid, subconical; its transverse exceeding its vertical diameter. Whorls four or five, convex; the body-whorl very large, subinflated. Seven to nine distant revolving costae on its upper surface, which is separated from the simple striate surface by an obsolete carina (= faint keel. mkj). Spire scarcely much elevated, faintly striated; umbilicus large and very profound; aperture oblique; lip thin and simple, entire (= not interrupted. mkj). Color: bright red." He called it Margarita ornata, and remarked: "I have met with many specimens of this beautiful shell, collected on the shores in the neighborhood of New York." The illustration of the shell is about $\frac{1}{2}$ inch in diameter and $\frac{1}{4}$ inch high, decorated spirally by six reddish-brown lines separated by white spaces about half as wide as the lines. The only other comment I met on this species is by A. E. Verrill (INVERTEBRATE ANIMALS OF VINEYARD SOUND, 1873, p. 661). He writes: "(it)...was described as occurring in the vicinity of New York, but I have not met with it in Long Island Sound." My query is: Has anybody?

At first sight it seems to be a sort of Littorina obtusata, at least as far as the thin lip, the uninterrupted body whorl, and the small spire are concerned. But obtusata does not have a "large and profound" umbilicus; as a matter of fact, like all Littorina, it has no umbilicus at all. Nor can obtusata ever appear in "bright red" color, for all its numerous variations. Yet assuming that Mr. DeKay was a sober (in more senses than one) observer, he must have collected something in so many specimens. What was it?

If Margarita ornata ever did occur in our area, it could not have disappeared; as a matter of fact, the very opposite should have happened. *Margarita* (now called *Margarites*) is a genus of small to tiny trochid shells confined to frigid and cold waters. The most common *Margarites* near New York is *M. helicina* Fabricius, found in Maine and northward in shallow water. I found large numbers under rocks at the base of the pierced rock at Percé, Gaspé, Canada. Now, if the disappearance of the southern *Littorina irrorata* is tied in with, as Bequaert (JOHNSONIA 7, p. 7, 1943) suggests, by a chilling of our waters, how come that a cold water dweller like *Margarites* also has disappeared?

Since DeKay's collection presumably went to the State Museum in Albany, I wrote to Dr. Katherine V. W. Palmer -- who had worked with the zoological collection there -- about this matter, but she answered that she was never able to find any of DeKay's shells. However, she was not sure that somewhere or other in some neglected closet these shells may not be hidden away.



Margarita ornata

Pl. 6, Fig. 104
in DeKay, 1843.
(enlarged)

DeKay also described *Nucula gouldi*, a funny species that nobody has ever since been able to identify. But this description he based, as he said (ib. p. 180) on a single specimen from Long Island Sound, so it did not arouse my curiosity. But a species of which he found "many specimens" is something else again. We breathlessly await a solution to the mystery.

WHAT SNAIL WAS THAT?

Chris Hudson, whose marriage had teetered because of the 200 snails he kept in the bathtub, is in the news again. The item follows:

'Largest' Land Snail in Captivity is Dead

> HOVE, England, June 18 (AP)--What was reputed to be the largest land snail in captivity died today.
>
> A snail collector, Chris Hudson, said the 18½-inch-long mollusk had a broken shell when it was found in Sierre Leone, West Africa, several months ago, and finally succumbed to dehydration.
>
> "It is a tragedy," said Mr. Hudson, 22 years old. "Despite all the treatments it received it has not been able to survive. It was a beautiful snail and it was to make a television program today."

The large land snails of Africa all belong to the genus *Achatina*, but the dimensions given here obviously do not refer to the shell, but to the soft parts at their farthest extension. We checked for shell size and found the largest given by Pilsbry (1905, Manual of Conchology, ser. 2, 16:309) to be only 123 mm (about 5 inches) -- *Metachatina kraussi* (Pfeiffer) -- and by Bequaert (1950, Studies in Achatininae, p. 135) only 208 mm (about 8½ inches), although Bequaert states that the species *Achatina reticulata* Pfeiffer is "the second largest of living land shells." But not even the largest living pulmonate species can possibly have a shell with the dimensions given in this news report.

M. K. Jacobson

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These NOTES are distributed by mail to all members of the NEW YORK SHELL CLUB, INC. Dues: Full membership $5.50 per year, $1.50 additional for each of other members of the same family - - with one copy of NOTES per family. Corresponding membership $4.00 per year. A limited number of back issues of the NOTES are available at $.45 postpaid per single copy; also bulk rates. Items and articles for publications in the NOTES should be sent to the Editor. The corresponding Secretary should be notified promptly of any change of address.

The NEW YORK SHELL CLUB meets on the second Sunday of each month, September through June, in

ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, NOVEMBER 13, 1977, at 2:00 PM

PROGRAM: LAND SNAILS IN YOUR OWN BACK YARD
by Bruce Einsohn (with color slides)

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MUREX BOOK WINS AWARD

The Radwin & D'Attilio book, "Murex Shells of the World: An Illustrated Guide to the Muricidae," was entered in the AAUP Book Show 1977 (Association of American University Presses) as one of the entries of Stanford University Press. This book show was judged by three internationally famous book designers. Their initialled comments appeared in each entry of each publisher. Out of twenty-five first prizes, Stanford University Press won four and the Murex book was one of them!

FESTIVUS, Vol. VIII, No. 8, August 1977

GEORGE E. RADWIN

News of the sudden and untimely death, on September 30th, of the senior author of MUREX SHELLS OF THE WORLD came as a shock to everyone. Dr. Radwin collapsed shortly after playing handball. Immediate care and prompt hospital attention were to no avail. He was 37 years old. Our deepest condolences go to his wife, Rhoda, and their children.

George Radwin was a native New Yorker, born in Far Rockaway and receiving his BS degree from City University. He studied at Florida State for his MS and attained his PhD from George Washington University. He served his "internship" (as he called it) in the Smithsonian's Department of Mollusks 1966-1968 during which time he was already involved in his study of the Muricidae. Shortly thereafter he accepted a position with the San Diego Museum of Natural History as curator of mollusks, a post he held at the time of his death.

D. Raeihle

From the Delaware Museum of Natural History:

NEWS

We deeply regret to announce that the Board of Directors of the Delaware Museum of Natural History have reluctantly voted to suspend the operations of the Mollusk Department at the museum on November 15, 1977. Public exhibits at the museum will remain open. However, the Curator and Assistant Director of the Museum, R. Tucker Abbott, and the Assistant Curator of Mollusks, Russell H. Jensen, as a consequence, will be leaving their positions. Professional malacologists are invited by the Director to continue to use the facilities of the museum. Those wishing malacological information may address Dr. Abbott at P. O. Box 4208, Greenville, Delaware 19807 and Mr. Jensen at R. D. 1, Box 55, Chadds Ford, Pennsylvania, 19317.

These events will not adversely affect the publication of The Nautilus, Indo-Pacific Mollusca, The Standard Catalog of Shells or publications of American Malacologists, Inc.

HIGHLIGHTS OF THE SEPTEMBER MEETING

The new editor of NYSC NOTES, Michael Torrusio, announced that he and the staff hope to get the NOTES into the mail early enough in the month so that all members will have their copies comfortably in advance of meetings. He asked for editorial contributions by members, and for any comments that might lead to improvement of the NOTES.

President Veronica Johns, in introducing Karl Jacobson as the first speaker, noted that this might be the last meeting he would attend as a resident of New York. He and Pinkie have been dividing their time between homes in New York and Florida, and have decided to become Floridians who will make summer trips to their old haunts.

Karl observed that he was about to deliver "a talk on collecting," and elucidated by stating that when one embarks on shell collecting one must necessarily also become a collector of certain other classifications of items. Among these might be: (1) Boxes of all sizes; (2) Medicine bottles and vials; (3) Letters from other collectors; (4) Field notes and diaries; (5) Photographs; (6) Autographs of malacologists; (7) Literature on conchology and mollusks; (8) Quotes concerning c. and m. He expanded on the last classification by giving examples from his own treasury of quotations - this proving to be the actual subject of his talk. The authors and works whose comments on our favorite subject he shared with his audience included Mark Twain, The New York Times, Robert Browning, The Cloister and the Hearth, Charles Dickens, Dorothy Parker, Simon and Garfunkle, Bertrand Russell, John Updike, D. H. Lawrence, Decline of the West, William Shakespeare, The Flight of the Phoenix, Lorna Doone, Seidman and Son, biographers of Tolstoy and Anatole France, Anthony Burgess, Edmund Spenser, John Milton, the Dutchess of Malfi, Rona Jaffe and Anne Morrow Lindbergh. (An agglomeration as improbable as this might have the makings of a shell club.)

The main speaker was Frank Nelson, who drew on a recent trip to Saint Lucia, in the Lesser Antilles, for a comprehensive presentation on what gratifications and difficulties are encountered in reaching this beautiful volcanic island, getting around on it, and collecting in its waters and forests. The slides he showed were notable for their scenic splendor and their lack of shell subjects. Frank and Lee found the shelling poor, although they know of others who were, at least, less unlucky. (For one thing, their eight days of vacation included four days of rain.) In most respects, though, their stay was delightful - in part because Saint Lucia is not a major tour stop.

Milton Werner, Recording Sec'y

COLLECT SMALL TO TINY SHELLS

Every shell collector eventually bumps up against the problem of space for his specimens. The older and richer the collection, the bigger the problem. But there is a whole world of tiny to microscopic molluscan shells where this problem never appears. The lilliputians are often as beautiful and interesting as the larger, clumsier (spacewise) shells and moreover there are many times more species of these minimollusks in existence than large sized ones. Hence a rich and varied collection can be assembled with the same eagerness and pleasure as any collection brings forth. And the space problem will never appear. Fortunately there is a dealer who specializes in these minimollusks (mini in price, too) and will send her interesting lists to all who ask for copies. Write to: Mrs. Margaret C. Teskey, P. O. Box 273, Big Pine Key, Florida 33043.

mkj

SLEEPING BEAUTIES

By Peggy Carpenter

We are all aware of the fact that many animals hibernate in the winter, but did you ever stop to think that the object of our affections -- shells, of course -- also hibernate? They stop eating in the fall and burrow underground or under logs or leaves. The common brown land snail, Helix aspersa, often favors such ground covers as English ivy or pachysandra. Slugs and the edible Helix pomatia are also noted for their ability to take winter naps. Among the most cold-resistant are the Physa which live in Siberia where the annual mean temperature is minus 20 degrees centigrade. Usually they are in clusters with their apertures turned upward and the opening is sealed by secreting a membrane, made mostly of calcium phosphate, which is called the epiphragm. A tiny hole is left in the epiphragm for breathing.

In the subarctic and the temperate zones most fresh water shells are able to live in water that is under ice and are often themselves enclosed in solid ice. In some very cold or very hot and arid locations it is something more than just seasonal dormancy; sometimes it is several or even many years at a time.

Several marine mollusks, Littorina, Mytilus, and Modiolus, are able to withstand extreme cold although they are not true hibernators. They are very hardy and live in the intertidal zone as far north as Hebron, Labrador and even the Arctic Ocean. There they are repeatedly exposed to temperatures of minus 20 degrees centigrade in the winter and ice forms inside the shells! They can withstand as much as

70 to 75% of their body cavity being filled with ice. We all know that cold temperatures are dehydrating but these animals are not quite so unfortunate as you might think. Though the body water freezes into unusable ice, it is not the body tissue or cellular protoplasmic fluid that freezes but is chiefly extra-cellular water. The remaining fluid then becomes a more saturated salt solution.

Newsletter, April 1976, of the
National Capital Shell Club.

REVIEW:

MUREX SHELLS OF THE WORLD:
An Illustrated Guide to the Muricidae,

by George E. Radwin and Anthony D'Attilio. Stanford University Press, Stanford, California, 1976, 284 p., illus., $35.00.

This handsomely produced and profusely illustrated handbook is reminiscent of the conchological iconographs of a bygone era. The last comparable undertaking on the worldwide Muricidae appeared nearly 100 years ago. The present work includes approximately 400 different species and illustrates some 450 specimens in full color. In addition, 62 species are illustrated by wash drawings or by black-and-white photographs, and 179 line drawings are provided to detail morphological features. These enlarged drawings include superb renditions by the junior author of surface sculpture, protoconchs, and radular dentition, subjects not found in most popular shell books.

As envisioned by the authors, this family of stenoglossan neogastropods is restricted to and subdivided into five subfamilies, namely the Muricinae, Ocenebrinae, Muricopsinae, Typhinae, and Trophoninae. Nearly all of the known living species of the family are treated except for the Trophoninae, for which only the type species of genera are covered. Within each subfamilial group, the genera as well as the species assigned to each genus are arranged alphabetically. For "practical" considerations, the authors did not use subgenera and subspecies as taxonomic units. As a result many presently accepted subgenera are elevated to generic rank and others are ignored, as generic synonymies are not provided. Fifteen new species are described in an appendix, and three homonyms are renamed in the text. Lengthy descriptions and the geographical ranges are given for the species. Unfortunately, diagnostic comparisons of the species are largely lacking.

In addition to the introduction in which biological, ecological, and systematic data are presented, this volume also includes an illustrated glossary, a list of sources for the figures, a bibliography, and an index. Anyone interested in this difficult and diverse group of shells will find this an indispensable source for the identification of their collection.

WILLIAM K. EMERSON
Department of Fossil and
Living Invertebrates,
The American Museum of
Natural History, N. Y.

The above review is reprinted
from BioScience Vol. 27 No. 8

THE DE LA TORRE EXHIBIT AT THE SOUTH FLORIDA SHELL SHOW

Morris K. Jacobson

On my visit to the highly successful shell show of the South Florida Shell Club in Planet Ocean in Miami on Saturday, January 29, 1977, I was most intrigued by an exhibit dedicated to the famous Cuban educator, statesman, paleontologist, naturalist, and malacologist Don Carlos de la Torre y Huerta who died in 1950 at the age of 92. It was assembled and displayed by Mrs. Alicia Masnata Brewer, who knew Don Carlos as a friend since her childhood and, as the Spanish and English dedication read, "De quien no lo olvida, From one who does not forget you." Mrs. Masnata Brewer, a gracious and distinguished lady, spent much time with me, disclosing her memories of this remarkable man. I was particularly interested in this display because of my long association with the study of the land mollusks of Cuba, a field in which Don Carlos was an outstanding figure. The collection on display consisted of memorabilia of this famous scholar. Among these I found the following to be of particular poignancy and interest:

There were several displays of shells including about a dozen specimens of new species which Don Carlos had described and named for the first time. There also several displays of Polymita, the gorgeous "Painted Tree Snails" of Cuba which were Don Carlos's favorites: a set of varied forms from his private collection; a set of dwarf specimens of several different forms, mature shells less than half the normal size; and, most interesting of all, a set of five specimens of actual species which were illustrated on a set of Polymita postage stamps issued by the Cuban government in 1961-62, each specimen placed next to the stamp on which the variety was illustrated. There was also a first day cover of four Cuban stamps issued in 1958 on the occasion of the 100th anniversary of the birth of the Cuban scholar. These stamps showed: a portrait of Don Carlos in his advanced years, a fossil ammonite, a Polymita shell, and an extinct fossil Cuban mammal, the latter three representing fields in which Don Carlos was particularly expert.

There were also several photos of Don Carlos which I had never seen before: One showed his library and private museum containing his matchless collection of Cuban land mollusks which, after his death, was for the most part divided between the United States National Museum of Washington and the Museum of Comparative Zoology of Cambridge, Massachusetts. Another showed a youngish Don Carlos with a fine black moustache holding his lovely little granddaughter, and still another showed him bent over his work table, his attention fixed upon a specimen of his beloved Polymita. There was also a small painting of a splendid view of the Yunque of Baracoa in Oriente Province from where the finest examples of Polymita come.

Among books, there was a copy of the biography of Don Carlos by Conde entitled "La Vida de un Naturalista," opened in the display case to a page illustrating a tray of the Polymita collection. There was also a copy of Don Carlos's work on the "Fishes in Cuba and the Atlantic Coast of Tropical America," opened to a page on which were listed all of Don Carlos's honors and associations. Particularly touching were two pairs of Don Carlos's cuff links in silver and gold, made in the shape of small Polymita shells. And finally there was a page from a Cuban newspaper with an account, plus photo, of the famous meeting of the American Malacological Union in Havana in 1938 when Don Carlos was President of the group. People who were there told me that the then Cuban President dispatched a Cuban naval vessel to Key West to transport the members and guests gratis to Havana. In other ways also it was a splendid meeting never to be forgotten by those who were lucky enough to have attended.

All in all this is an effective and touching commemoration of a great man assembled with diligence and displayed with great taste and skill by one who remembers her association with him with joy and affection.

* * *

(The following paragraphs are extracted from an article in a Miami newspaper, "Diario las Americas," as reprinted in South Florida Shell Club's "The Mollusk" Vol. 15 No. 4, April 1977.)

Mrs. Masnata was born in Cuba 82 years ago, and prior to developing an interest in shells made a living breeding tropical fish, along with her father and two sisters. In Havana, around 1920, they established Cuba's first aquarium. In 1937 they moved to Miami, and the next year the "Masnata Sisters Aquarium" was inaugurated. I might add, from personal experience, that this establishment, during its many years of existence, was one of the finest and most reputable of its kind in the city of Miami.

Her interest in malacology dates back to 1920, when a friend of her father Emilio, Dr. de la Torre, visited their establishment in Havana to admire their collection of tropical fish, which interested him greatly, since he was an avid naturalist. The Masnata's interest, in turn was aroused by his extensive collection of Cuban mollusks. While running the aquarium here in Miami, Mrs. Masnata corresponded with, and often received specimens from Dr. de la Torre himself.

Mrs. Masnata told me that she had not expected to win anything with her exhibit (which won first place in the potpourri division), but had done it solely as a tribute to Dr. de la Torre who was her teacher and personal friend.

SOUTH FLORIDA SHELL SHOW, 1978

We have the following information from South Florida's Shell Show Chairman:

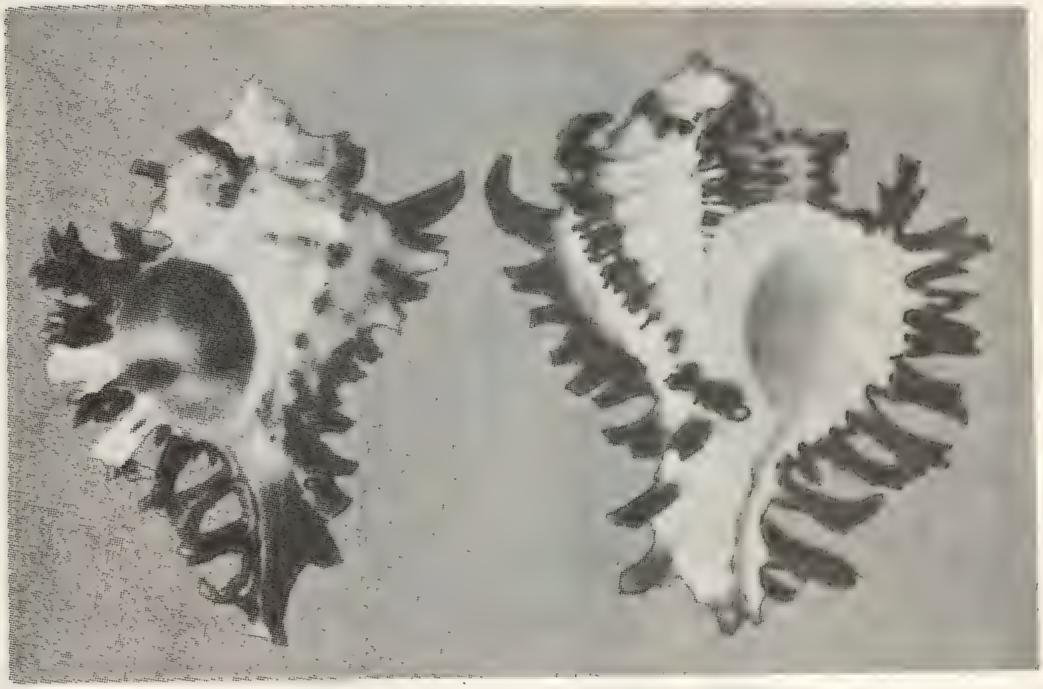
The South Florida Shell Show, 1978 Edition, is just around the corner. This will be our Sixteenth Show, and will be held at Planet Ocean, 3979 Rickenbacker Causeway, Miami, Florida. Dates for the show are Friday, Saturday, and Sunday, January 27th, 28th, 29th.

We invite all of you to take part in what we feel will be one of the finest shell shows ever held in South Florida. A fine group of judges have been selected, and competition will be interesting.

The 1978 Shell Show Committee looks forward to receiving your entries. For entry forms, information on rules and classifications for the various categories, you may write to Shell Show Chairman Mr. Ben Culverhouse, 10620 S.W. 93rd Street, Miami, Florida 33176. (Telephone: Area code 305: 271-9814)

SINISTRAL SPECIMEN OF MUREX (HEXAPLEX) CICHOREUM (Gmelin, 1791) DISCOVERED IN THE PHILIPPINES

Robert Janowsky



The specimen of Murex cichoreum (Gmelin, 1791) illustrated was collected in the fall of 1976 by a fisherman near Zamboanga Island, the Philippines. It is one of the perhaps fewer than ten known sinistral specimens of this species. The specimen appeared to be fully adult in size (height: 58.7mm) and quite regular in every other respect.

This species is collected in the Philippines in great quantity and is considered to be one of the most common of the Philippine Murex. It is surprising then how few sinistral specimens have surfaced considering the great quantity of shells of this species brought in every year.

MALACOLOGICAL ARTICLE OF THE MONTH

On Pages 403-409 of the Bulletin of Marine Science 26 (3) 1976 appears an article entitled, "Predation on Littorina irrorata (Mollusca: Gastropoda) by Callinectes sapidus (Crustacea: Portunidae)" by Dr. Paul V. Hamilton. He points out that the Blue Crab, Callinectes sapidus, swims to the surface in the intertidal zone during high tide and removes the Marsh Periwinkle, Littorina irrorata, adhering to plant stems near to and above the water line. Snails are carried to the bottom, cracked open, and eaten. Specialized rules for each of the morphologically different chelipeds (= the legs which bear the claws) during shell opening are indicated by laboratory observations. Moving up the plant stems with rising tides probably serves Littorina irrorata as a defense against predation by Callinectes sapidus and other predators.

Henry D. Russell

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PROGRAM: BILL OLD'S REPORT ON HIS ACTIVITIES, SUMMER 1977 (With color slides.)

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AXEL ADOLF OLSSON, 1889-1977

We are sorry to announce that the very well known and well liked Axel Olsson died October 26th at his home in Coral Gables. He was 88 years of age.

Born April 19, 1889 in Gloversville, New York, Dr. Olsson attained his education at Massachusetts Institute of Technology and Cornell University. His career began at Cornell where he was Instructor of Invertebrate Paleontology during the period 1913-17. During his long professional life he produced many, many papers on mollusks and paleontology. Probably his most widely known work is "Pliocene Mollusca of Southern Florida" (with A. Harbison), 1953. Another important work, for which he was honored, is "Contributions to the Tertiary Paleontology of Northern Peru," (in six parts) 1928-44. There is also "Neogene Mollusks from Northwestern Ecuador," 1964 and, perhaps of more local interest, "Some Tertiary Mollusks from South Florida and the Caribbean," 1967.

Dr. Olsson's enthusiasm for his work did not diminish with advancing years; his animation, friendliness, and helpfulness endeared him especially to the amateur workers of South Florida.

KITTI WESTFALL

Kitti Felix Westfall, a native Floridian and resident of Pinellas Park, Florida, died suddenly on July 17th while on a shelling expedition in the Dominican Republic. She was 47 years old.

Mrs. Westfall was a photographer and journalist as well as a collector and was known to many of our readers. NYSC members will remember her very descriptive article, "Sojourn in the Grenadines," which she contributed to these NOTES No. 138.

MUSKINGUM RIVER NAIAD MOLLUSKS

The Muskingum River basin occupies nearly all of southeastern Ohio and is the largest river system in the state. Its waters have been the source of an impressive variety of unionids, with 43 species recorded from the main stem alone. This resource has served as a food source for prehistoric Indians; as an abundant supply of shell for the pearl button industry (668 tons in 1912 alone); and, more recently, as the raw material for the manufacture of nuclei for cultured pearls. The harvest had been limited to 500 tons of shell per year in recent years.

Tentative plans were made some years ago for A.M.U. '76 to visit an especially rich site on the lower Muskingum as their annual field trip. Industrial copper pollution has been cited as the major factor in decimating this fauna in recent years. It has been estimated that 43 million naiades were killed in the main stem of the Muskingum River from 1971 through 1974. Copper effluent has since been reduced (by court order) to an average of 10 pounds per day, but it will take some years for the population to regain its former abundance - if ever. The Muskingum is presently closed to commercial collecting.

Fortunately the Museum of Zoology had salvaged a number of large animal-collected shell middens from this river before the fauna disappeared. These were brought out of storage, cleaned, labeled, bagged, and presented to A.M.U. '76 as banquet favors. These specimens are among the finest of their kind available anywhere. We are only sorry that A.M.U. '76 could not have the pleasure of collecting them personally.

David H. Stansbery
OSUM, Columbus, Ohio
August, 1976

(The beautiful specimens given as banquet favors were: Quadrula pustulosa (Lea, 1831), Truncilla donaciformis (Lea, 1827) and Obliquaria reflexa Rafinesque, 1820.
dr)

Review:

WONDERS OF STARFISH

by Morris K. Jacobson and William K. Emerson, 1977, Dodd, Mead & Co. 80 pp. incl. glossary, bibliography, index; well illustrated with photographs and line drawings. 7" x 9¼", reinforced binding, $4.95.

WONDERS OF STARFISH is the latest of Dodd, Mead's "Wonder Books" to give an introductory account with good supplementary information on animals commonly encountered by those who frequent the seashore. Various types of starfish are discussed: their forms, how they develop from larvae to adults, how they feed and are fed upon, their place in the ecology and, finally, suggestions for observing living starfish -- which is a fascinating study. Did you know that starfish range in size from less than an inch to over four feet, and that they may have only four arms or as many as fifty?

Companion books are WONDERS OF THE WORLD OF SHELLS (Jacobson & Emerson, 1971), WONDERS OF BARNACLES (Ross & Emerson, 1974) and WONDERS OF SPONGES (Jacobson & Pang, 1976) which with WONDERS OF STARFISH make a useful set of introductory texts.

dr

THE FOSSIL SHELLS OF ROCKAWAY BEACH

Morris K. Jacobson

Alert shell collectors usually keep their eyes open for engineering dredging activities. These usually offer good opportunities for obtaining offshore species with little trouble. Such an opportunity came to me in Rockaway Beach, New York this year when huge quantities of sand were pumped from about one mile offshore and deposited along the beaches, practically doubling them in width. I visited the dredging sites regularly but, in general, I was disappointed. I found huge quantities of fine white sand full of dead, discolored shells, all of them species I had been collecting on the beaches since 1938 when I first discovered the shell world. I was surprised that practically all the dredged specimens were in the same worn, weathered condition which I had been collecting. I was expecting a richer haul. Why so few live or newly dead specimens? Why almost only "subfossil" or fossil-looking specimens? This question was answered by my neighbor, Dr. David R. Franz, Professor of Biology at Brooklyn College. He pointed out to me that many of the species I had been collecting on the outer Rockaway Beaches were actually bay-living species, and not species normally found in the rougher water of the open sea. Such were, for example, Ilyanassa obsoleta, Nassarius trivittatus, Argopecten irradians, Crassostrea virginica, Mercenaria mercenaria, and the pulmonate Melampus bidentatus. Large numbers of specimens of all these species appeared on the ocean beach. I had noticed this earlier (see my articles on the shells of New York City in NAUTILUS, Vol. 56, pp. 139-144 and Vol. 57, pp. 31-32, 1943). But I had assumed that these specimens had been living in Jamaica Bay, had been washed out to sea by the outgoing tide and had been swept back onto the outer beaches by the returning tides and waves. Dr. Franz quickly showed me that this idea was wrong. Many of the oyster shells, for example, were too bulky and heavy to be thus lightly wafted hither and yon, and the other specimens were far too weathered to have been recently killed and transported. Besides, the tides didn't behave the way I thought they did. The truth is that these bay species had actually been deposited about 10,000 years ago, in the Holocene period just before the last Ice Age.

At that time, instead of the ocean washing along the outer beaches of the Rockaways, as it does now, there was a large, shallow bay separated from the open seas by a barrier beach -- very much like Jamaica Bay is today, separated from the ocean by the Rockaway Peninsula barrier beach. In this ancient shallow bay the bay species flourished. When the huge glaciers melted and the water level rose, the ancient Hudson River Delta -- now called the submarine Ambrose Channel -- was inundated by the sea. The bay-dwelling species died off and their shells were covered by numerous layers of ocean-deposited sand. And it is these ancient specimens, washed out subsequently by underwater ocean currents and at present by the extensive dredging activities, which are scattered on the beaches. This means that the present day beach fauna of the Rockaways consists of two elements: live ocean-dwelling species like Lunatia heros, Spisula solidissima etc., and fossil specimens of bay species which at present still live in Jamaica Bay.

It is interesting that this offshore fossil bed contains several species which are no longer generally found north of Cape Hatteras, such as Noetia ponderosa and Littorina irrorata. This would indicate that the ancient bay fauna was laid down when the local climate, or at least the water, was somewhat warmer than it is today. The present day much commoner, more northern Littorina littorea, which is found in large numbers alive in Jamaica Bay, is not found among the fossils on the beach (see American Museum of Natural History GUIDE TO SHELLS, Emerson and Jacobson 1976, p. 57. -Ed.).

Dr. Franz informed me that these suppositions were verified by Dr. Arthur Merrill of the Federal Fisheries Bureau, who subjected the fossil oyster shells to carbon-14 dating tests. He confirmed the age of the deposits as more or less 10,000 years.

SOME EXCELLENT BUYS IN BOOKS ON FOSSILS

Available from PALEONTOLOGICAL RESEARCH INSTITUTION, 1259 Trumansburg Road, Ithaca, New York 14850. (When ordering, add 25¢ postage per volume.)

LIFE OF TIMOTHY ABBOTT CONRAD (1803-1877), Pioneer Paleontologist, Conchologist, Poet. By Harry E. Wheeler, 1935. Reprint 1977. Concerning Shells, Fossils and Scientists of early America, particularly of the Southern Young States. 158 pp., 27 pl., $7.00.

CONRAD'S FOSSILS. Reprint 1971. Conrad's Fossil Shells of the Tertiary Formations of North America, 1832-35, with connotations and unpublished plates by G. D. Harris. 121 pp., 20 pl., $5.00.

EXPLORATIONS ON THE WEST COAST OF FLORIDA AND IN THE OKEECHOBEE WILDERNESS, by Angelo Heilprin, 1887. Reprints 1964, 1972. Late Cenozoic fossils of Florida. Contains original descriptions and illustrations as well as notes on the early collecting sites in southern Florida. 134 pp., 19 pl., $8.00.

PLEIOCENE FOSSILS OF SOUTH CAROLINA, by Michael Tuomey and Frances S. Holmes, 1857. Reprint 1974. 9" x 12", 152 pp., 28 pl., $9.00. NOTE: This is an important work because several of our local marine species were described here for the first time. --mkj

HANDBOOK OF PALEONTOLOGY FOR BEGINNERS AND AMATEURS, Part I. The Fossils. By Winifred Goldring, 1960. Description of plant and animal groups with full information on collection and make-up of fossils. 394 pp., 97 fig., $4.00.

FOSSILS, by E. Laurence Palmer, 1965. An Introduction to Paleontology. 124 pp., 200 illustrations. Paperback, $2.00.

LATE CENOZOIC CORALS OF SOUTH FLORIDA, by N. E. Weisbord, 1974. The coral fauna of the Caloosahatchee Group. 289 pp., 37 pl., $10.50.

ILLUSTRATIONS OF FOSSILS OF THE PARIS BASIN EOCENE (Lamarck, 1802-1809) by Katherine V.W. Palmer, 1977. Mostly Mollusca, excellent, extensive, figures of the important fossils. The first published illustrations of the historic drawings (Velins) in the Museum d'Histoire Naturelle, Paris. 9" x 12", 67 pp., 53 pl. $12.00 plus 50¢ domestic postage or 65¢ foreign postage.

ILLUSTRATIONS OF FOSSILS of the ITHACA AREA, by K. Palmer and D. Brann, 1966. 8 pp., 20 pl. of 271 illustrations, with names of the common fossils and indication as to kind of animal each was. $1.50.

HIGHLIGHTS OF THE OCTOBER MEETING

Librarian Harold Feinberg noted, among other comments on the Club library, that he has available to members the most recent listing of the books and papers it contains. He added that the time has come for a revision of the catalog, particularly of the reference-materials section. He asked for volunteer help, to make an up-to-date roster of reference titles. The library is adjacent to Harold's office at the American Museum. He can be reached at TR.3-1300 (Extension 417).

President Veronica Johns had two items of sad news to announce. The first was the recent death of George Radwin, of the San Diego Natural History Museum. He was co-author with Tony D'Attilio of "Murex Shells of the World." The second item was conveyed in a letter from Dr. R. Tucker Abbott, announcing that the Delaware Museum of Natural History had suspended operations of their Mollusk Department, although the public shell exhibits are still open to visitors. While this was described as a temporary situation, Dr. Abbott noted that staff members will be seeking positions elsewhere.

The first speaker was Virginie Fowler Elbert, who offered a follow-up to Frank Nelson's September presentation on St. Lucia. She said that she had never found a shell in the Soufriere region, where the Nelsons had done most of their unrewarding shelling. In the northern part of the island, however, she had found the shelling very good, even though she does only beach collecting. She displayed a sampling of her finds, including Oliva, Strombus, Astraea, Conus, Phalium, Murex, Cypraea, Terebra, Fissurella, Voluta, Thais and Cymatium. Mrs. Elbert is the author of the just-published "Shellcraft."

The main speaker was Richard Goldberg, whose subject was two shelling expeditions through the Florida Keys. His major collecting stops were on Vaca, Bahia Honda, Spanish Harbor, Upper and Lower Matecumbe, Indian and Duck Keys, and Key West. With the aid of slides, he described the differences in the habitats, and noted the species he had collected in each.

Milton Werner, Recording Sec'y

INSPIRED BY SEASHELLS

Ethelyn Woodlock

Last spring the Bergen Community Museum in Paramus, New Jersey, invited me to have an exhibition in May and June. It was an accumulation of many years of using shells in my paintings, acquiring shell antiques and collecting rainbow-colored shells. It took over a month to plan the displays for five cabinets and Bill Old came out several times to help. His suggestion - to put the labels and shells up on boxes - gave it the professional touch, so I cut blocks of wood to the desired sizes and painted them a soft green. Fifty-eight items were on the walls; there were shell paintings with poems, assemblages, and constructions, which made it my most ambitious exhibition. With so much packing and carting, I doubt if it will ever be repeated.

How many colors live deep in the ocean! A mirrored-back six-foot cabinet gave a double view of shells of all colors. The bright red of Pecten melica Iredale, orange nodosus L., nobilis Reeve in all colors, six green Papuina pulcherrima L., purple Janthina, over a hundred shells made a rainbow right from Heaven. It was breathtaking.

The bottom section of a large double cabinet showed button making shells, pearl making shells and specimens before and after polishing. At the top: modern shell jewelry; the Chambered Nautilus series - whole, cut, polished, and antique soup spoons made from the backs sections; a polished Haliotis sieboldi Reeve, carved and dated 1890; a cameo, carved on a Cypraeacassis rufa L., beside an antique cameo pin. There were several Cypraea tigris L. with one specimen acid-etched with the Lord's Prayer; a child's toy, a tiger whistle; and modern etched tigers.

The bottom of a twin cabinet held mollusks used for food: Abalone steak, more expensive than beef; Strombus gigas L. chowder and fritters; pen shell scallops, a little tougher than deep-water ones; soft and hard shell clams; mussels, oysters and the European land snail used for escargot. American-Italians make a chowder, Scungili, from our local whelks, Busycon carica Gmel. and B. canaliculatum L.

Above were my two sailor's valentines: the ten-inch one I made for the American Museum of Natural History which was not used there, and a twelve-inch case filled with smaller designs and hundreds more shells. There were large color photos of valentines that I helped friends make. I included an old scrimshaw whale's tooth and a statue, carved from a tooth, that has been in my family for generations.

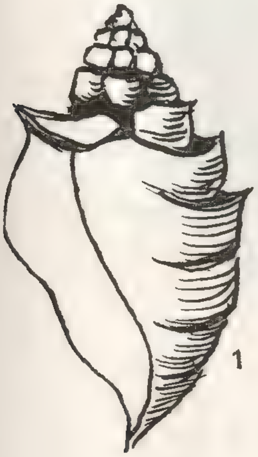
For the miniature collector: a shell "store" with a six-inch attendant holding a feather duster. Mirrors edged with minute shells must be dusted! There are tiny ecology boxes with "specimen" shells, ornaments under glass domes, inch-high jars with shells for sale by the umpteenth of an ounce, and a cabinet less than three inches high with four drawers that open to show "catalogued specimens." An antique china cabinet with curved front displayed modern items for the tourist trade: shell dolls, animals, boats, snails, mice with driftwood cheese, Christmas cards and trees decorated with shell ornaments - all things that children love (as well as grown-ups!).

It is said that artistic talent is inherited; if so, mine came from a great-aunt. Her walls were lined with enormous gold leaf frames for the Victorian scenes and florals. I have a magnificent fish set which she painted with soft-colored seaweeds and shells. These fine French china dishes are dated 1890. Was my love for shells also inherited from my aunt?

As a photograph of some of her dishes cannot be used here, I feel it would still be interesting to list shells that a Victorian artist painted. Bill helped select the real shells to place next to the painted ones. The smaller platter had a perfect Lyropecten tumbezensis Orb., a bivalve that I called Limopsis sulcata V & B, a blue crab, a sea urchin, and Bill's choice for a mystery-to-me was Trochus caerulescens Lamarck. The large platter, twenty-four by ten inches, had a Mytilus edulis Linne, a Strombus alatus Gmelin, another crab and urchin, plus a Tellina, which I called an albinella Lam.

Four of the plates were easy: one had a Haliotis ruber Leach; another a Strombus lentigenosus L. with an Ensis directus Conrad; on the third plate - another Mytilus with a freshwater Campeloma decisum

Say, and the fourth - An *Oliva incrassata* Lightfoot, which was almost the right shape. Two of the shells on the fifth plate were easy: a pink *Anadara transversa* Say and another *lentigenosus*. The last shell was puzzling, but Bill thought it could be *Patella tabularis* Krauss on a rock,② so he used a *Cellana testudinaria* L. as the smooth edge under the ruffled one. For the *Epitonium* on a sixth plate we used *communis* Lamarck but the last shell is still questionable. As it is left-handed,① Bill chose *Busycon contrarium* Conrad. It seems odd that my aunt drew all of the shells correctly except for one. It is unlike anything that Bill has ever seen.



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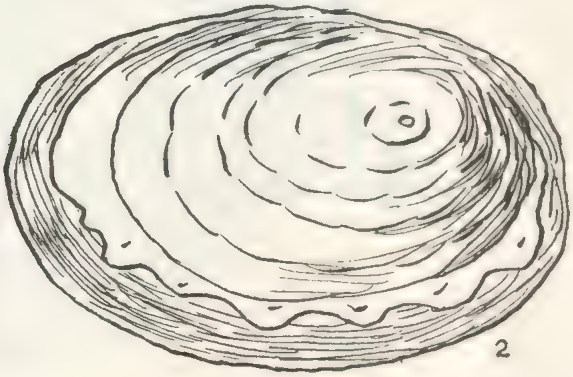

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These dishes formed the border on a three and a half by five foot case, along with the modern Stix plates with brown bands and drawings of *Epitonium scalare* L., *Cymatium lotorium* Philippe, *Conus aulicus* L. and *Harpa davidis* Rod. On a lower level, a brilliant Royal Beyreuth pitcher could have been inspired by *Murex duplex* Röding which has long spines like on the pitcher but is not as colorful.

Many small antique items were included in this case: a glass "clam shell" pocket flask, used by sailors on cold nights; an 1880 pewter ice cream mold; a covered glass butter dish with an exact duplicate beside it - a *Pecten islandica* L.; a shell-shaped silver dish and a spoon; and two treasures: a pearlized child's purse and boat, given to me by an old lady in Hallowell, Maine, when I was three. Shell collecting was my destiny. I feel that most people who love shells had that love start in childhood.

My old aunt who gave me the fish set also gave me my first shell, a beat-up *Lambis lambis* L. which I used in a painting in 1951. Five years later I painted my first purchased shell, *Lambis chiragra* L. (I joined the New York Shell Club in 1961). It would be impossible to count the number of shells used in my paintings over the years. The catalogue number 53 was listed as "Some That Got Away." These were small photos of sold paintings, most of which seem to be in Florida. Of the six borrowed locally, two were 'on loan' by Bill.

I was pleased with a letter from Ruth Noble, former president of Bergen Community Museum, who wrote, "The Museum is fortunate in being able to offer such an exhibition to the public." Yes, shells have inspired mankind for thousands of years -- because shells are SO BEAUTIFUL.

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The NEW YORK SHELL CLUB meets on the second Sunday of each month, September through June, in

ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, JANUARY 8, 1978, at 2:00 p.m.

PROGRAM: DR. R. TUCKER ABBOTT will be our guest speaker.

DON'T MISS this special program.

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HIGHLIGHTS OF THE NOVEMBER MEETING

Probing with brain-surgeon fingers into twin nests of soap flakes, Fred Cannon winkled out two visual treats: fine specimens of the rare, beautiful and extremely delicate *Spondylus gloriosus*. The upper valve of one is red, and of the other, orange. He reported having simultaneously acquired a third, all white, which he had not attempted to transport. They had been collected off Hawaii, at 150 fathoms. On two recent occasions, examples of *gloriosus* won Shell-of-the-Show.

The day's speaker was member Bruce Einsohn. His presentation on land shelling was titled "Stalking Wild Beasts in Your Back Yard." He noted that there is, at present, a resurgence of interest in land shelling not matched since the earliest days of serious collecting. Land mollusks, he said, are the second-most successful terrestrial invertebrates, following the insects. After offering a number of observations on land-collecting opportunities, he showed and described a series of slides, starting with a diagram of typical land-snail anatomy. Subsequent slides showed a variety of local collecting spots: the back yard, in Flushing, of member Richard Goldberg; the Kissena Park bridal path, in Bayside; the shores of Oakland Lake in Alley Pond Park (all in Queens, N.Y.); the William T. Davis Wildlife Refuge in Staten Island, and the Laurel Hollow Nature Preserve at Cold Spring Harbor, Long Island. Thirteen genera of land snails were pictured in this series. Bruce ended with a group of close-up photos of particularly attractive tropical land snails. His climactic slide was the traditional sunset. Appropriately, it was an urban sunset scene.

Milton Werner, Recording Sec'y.

OUR THANKS to Harold Feinberg, Dorothy Janowsky and Marie Sussman who worked to compile the New York Shell Club Library Listing that was sent out with our December issue.

REFLECTIONS OF A NON-SHELL-COLLECTING SHELL COLLECTOR

Ernie Stark

There is at least one paid-up member of the New York Shell Club (and the Long Island Shell Club) who does not collect shells and who has at most only a passing interest in the existence of phylum Mollusca. If this seems a strange confession, consider that we live in an age when many kinds of deviants are emerging from their closets. Why not the non-shell-collecting shell collector?

My raison d'être as a pseudo-sheller is that my wife, Cherita, is blessed with a consuming passion for collecting, cleaning, evaluating, identifying and storing any mollusc that comes within reach. It is my function in her shell-collecting life to transport us to places where the reach can be extended, the grasp rewarded and heaven achieved. It's not all altruism on my part, however. What I get out of it is an appreciative wife (which is almost enough) and an opportunity to be at what Rachel Carson referred to as "the edge of the sea." To me, the edge of a big body of water is one of the nicest places in the world to be. (Minimum size requirement for "big" is that there be water to the horizon and that somebody make waves.) I like the smell of the water and the look of the shore. I like to sit and stare at the surf. I like to lie on my back and listen. Especially, I like to watch the birds: shorebirds and gulls and terns and geese and ducks and loons and grebes and...

When we're at a shoreline, I sometimes help Cherita with the collecting. It usually starts out as a social or husbandly gesture and once in a while I get caught up in the excitement of the chase. With the luck of the perennial beginner, I often manage to come up with the find of the day, mostly when we're at a vacation spot where Cherita doesn't know the territory.

A few years ago we were "snorkeling" at low tide off North Bimini in the Bahamas. The primary objective of our day was to collect Cassis tuberosa. It was pretty easy for me -- the water was only 12 inches deep at midday, and all I had to do was crawl around on my hands and knees like a snake in the eel grass, fully dressed for protection from the sun (hat, long-sleeved shirt, slacks and sneakers) and look through my face mask for meaningful shapes. According to Cherita's meticulous records, these were some of the "shapes" that I contributed to the collecting bag that day: Cassis tuberosa (King Helmet), Cassis flammea (Flame Helmet), Strombus gigas (Queen Conch), Strombus raninus (Hawk-wing Conch), Turbinella (Xancus) angulata (West Indian Chank) and Fasciolaria tulipa (True Tulip).

Another time, in Tobago, using the services of a guide, Charles King, we went out at night to find Voluta musica. He knew where they were at 6-8 feet depths, and with the powerful light of the lantern which was secured to the prow of his boat, he and I snorkeled and searched while Cherita sat in the boat with Charles' two nephew assistants and worried about me. I'd never snorkeled at night before or since. It was a beautiful experience, with the added satisfaction of delivering some new items to Cherita's collection. Elsewhere on Tobago, during a daylight search in a colony of Murex brevifrons, the principal collecting tool was bare feet. The habitat is in murky shallow water, and the most efficient method of locating the shells is to step here and there very, very carefully and to pick up any sharp or unusual object that your foot touches.

We collected some beauties, and I know that I was a better collector than Cherita because I have bigger feet.

My chance to play with mud legitimately as an adult came on a trip to Sanibel and Captiva Islands in Florida. We went with Jerry Way, a guide who knew when, where and how to collect Cyrtopleura costata (Angel Wing). The "how to" is very important in this case because you have to learn to recognize by surface indications that a live angel wing is 12-18 inches below. When you decide to make your move you must dig quickly and efficiently, being careful not to damage the delicate shell. If the shell eludes you it increases the fun (for me) because you get more chances to play with the mud before your collecting quota is filled.

Last year (1976), Cherita and I went on an early autumn trip to Nova Scotia. Cherita knew exactly which beaches and fishing coves she wanted to explore, as a result of her correspondence with Dr. Derek Davis of the Nova Scotia Museum in Halifax. What she most wanted, deep-water Neptunea and Colus, she did not expect to find live. That suited me fine because I no longer join in the live collecting. I resolved that matter of conscience a couple of years ago and now devote my efforts only toward those shells whose ex-inhabitants have joined that great big shell show in the sky. On this trip my biggest successes came because of just that. The collector, viz., Cherita, intensively harvests the tidelines, crawling along the seawrack for meaningful "debris" and microscopic species; the non-collector takes a walk and investigates the topography and various objects in the vicinity. What I found were stacked-up lobster traps (September is off-season for lobstering in Nova Scotia). And in many of these traps were long-since-perished Neptunea lyrata decemcostata, Buccinum undatum, and Colus species. Lobster traps are cunningly designed so that what goes in seldom gets out on its own power. How I "liberated" most of the good shells without harming an innocent lobsterman's property is a secret that should only be passed from father to son.

Few among these shells had opercs. This was of little consequence to me but it did matter to Cherita. Then we got lucky. Again, Dr. Davis' letter provided the location of a cove and my wandering did the rest. While Cherita concentrated her expertise on two square centimeters of driftline, I investigated the fishing shacks and the colorful painted boats, some of which were at steep angles on launching ramps. What I found underneath those ramps were hundreds (thousands?) of Neptunea, Colus and Buccinum, discarded as garbage by fishermen and lobstermen during a season's catch. When I realized what I was looking at, I felt I was living through a Hollywood cliché where an ivory hunter stumbles into the legendary elephants' graveyard. I yelled to Cherita to come quickly with her bucket and all her plastic bags.

For the next couple of hours we searched through this treasure, eliminating what didn't seem to be perfect. It was ridiculous -- at Ditch Plains near Montauk over the last few years, Cherita would be ecstatic at finding fragments of Colus, and here we were, casually tossing aside intact shells because we had room only for the best specimens. From the smell of things, it was apparent that some of the shells hadn't been there long enough. But I enjoyed myself so much that I didn't mind that the decomposition process was still going on. If any of you try your luck in the same way, you'd do well to induce a slight head cold before starting. The ideal equipment for this kind of shelling expedition is a shovel and clogged nasal passages. My personal bonus on this trip was a small flock of common loons just offshore on a quiet bay early in the day. They were doing their "laughing" bit, and I'd never heard a loon before.

I like to think that there's no visible end to my non-collecting, and that as time and vacations go on, I'll become increasingly skilled at my non-avocation. Really, I'm very pleased that Cherita wants to continue collecting for herself and for the Long Island Shell Club monograph. I'll be getting to more sea edges and more birds. And Long Island has great birding from January to December, from Breezy Point to Montauk.

(The above article was also contributed to LISC NEWS, Vol. 3:8-9.)

MOLLUSKS OF THE PALISADES

Morris K. Jacobson

Land and fresh water shells are not easily found in the entire metropolitan area of New York City. However, a knowledge of their habits and an application of diligent search can uncover a large number of interesting and sometimes beautiful species, especially in the area of the Palisades.

On the banks of the Hudson River, living in mud near the shore, can be found the small Mystery Snail (Campeloma decisum) as well as specimens of the small brackish water mussel (Congeria leucophaeata). Other fresh water shells are also found, as well as an occasional stray marine shell.

In the ponds everywhere, as well as in small streams, live such common fresh water shells as the Tadpole Snail (Physa sp.) and its close relative the Polished Tadpole (Aplexa hypnorum), the Pond Snails (Limnaea sp.) and the various forms of Rams Horn Snails (Helisoma sp., Gyraulus parvus, Planorbula jenksii, and Promenetus hudsonicus, the last three being small to tiny shells). In larger rivers such as the headwaters of the Hackensack in Rockland County, are the river mussels: the Fragile Fresh Water Mussel (Anodonta sp.), the Filter Clam (Elliptio complanatus) and, most interesting of all, the Pearl-Bearing Mussel (Margaritana margaritifera). These clams can be found by feeling for them in turbid waters or looking for them (for which a little practice is necessary) when the water is clear. In addition, most ponds and lakes have various kinds of Fingernail Clams, ranging from the large, brownish Sphaerium rhomboideum through the medium-sized Musculium to the tiny sub-triangular Pisidium. An interesting small snail that was introduced from Europe, and is found in large numbers in several creeks, is the Faucet Snail (Bulimus tentaculatus), so-called because at times it breeds in such numbers as to appear in the faucets of kitchens that are fed by snail-inhabited streams. There are also a number of small to tiny fresh water mollusks such as: Valve Snails (Valvata sp.), Tiny River Snails (Amnicola porata), and Fresh Water Limpets (Ferrissia sp.). A handsome, large and heavy shell is the Virginian Horn Shell (Goniobasis virginica), which we have found so far only in the North Branch of the Raritan River. Occasionally we find the recently introduced Chinese Mystery Snail (Viviparus malleatus), a large, inflated, greenish olive, operculate mollusk.

Land shells can be even harder to find, but in shady areas, under moist (but not wet) shelters such as fallen tree trunks, discarded corrugated boxes, leaves, paper and bits of wood, and in talus slopes they may be found in satisfactory numbers. The largest are the White-lipped Forest Snail (Triodopsis albolabris) and its relative, the Common White-lipped Snail (Mesodon thyroidus). Almost as large and much more colorful are the Striped Forest Snails (Triodopsis tridentata). A rare snail, covered in life with a hairy epidermis, is the very interesting Hirsute Forest Snail (Triodopsis denotata). Although we have as yet no records of the snail from the Palisades area, it is likely that the colorful English Garden Snail, (Cepaea nemoralis), a recent introduction, will be found in gardens and in compost heaps. Other, larger snails are the various forms of the glistening snails (Oxychilus sp. and Mesomphix sp.), the Pill Snails (Stenotrema sp.), the Cannibal Snail (Haplotrema concavum) (so called because it is a predator on other snails, which are largely plant and fungus eaters), and the Amber Snails (Succinea sp.). There are in addition large numbers of small to tiny snails like the flattened Zonites (Zonitoides sp.) and Disk Snails (Discus sp.), the elongated but truly tiny Pupa Snails (Gastrocopta, Vertigo, Columella etc.) and the small but handsome Apple Seed Snail (Cionella lubrica). Mention should also be made of Vallonia, and the tiniest of all land snails, the Tiny Mulch Snail (Punctum minutissimum). To complete the roster, we add the following: Hawaiia minuscula, Retinella, Euconulus sp. (the Beehive Snails, so-called because they resemble a tiny, old-fashioned beehive) and Strobilops sp., the Labyrinth Snail, which gets its popular name from a number of small ridges inside the aperture that look like a very simple maze or labyrinth.

Most of the above-mentioned species are described and illustrated in a handbook, SHELLS from CAPE COD to CAPE MAY, by Morris K. Jacobson and William K. Emerson, 1971, Dover Publications, Inc., New York.

ONE PART PER MILLION

I am frequently asked what one part per million of anything looks like, or can be visualized as, so that people can understand what the environmentalists are talking about. Here's how I go about trying to make it plain:

Imagine a cube 25 feet on each side (or a building 25 feet square, 2½ stories high), then imagine it full of seawater, preferably nice, clean clear water such as one can find in the Caribbean. Now imagine you dump in just one pound of your favorite pollutant. That's it! You now have one part per million. A cube that size has 15,625 cubic feet, and seawater weighs 64 pounds per cubic foot.

Just for kicks, measure the meeting room for cubic volume, and see how many would care to be there if it were full of seawater plus one pound of some sort of poison.

I hope this brings home to our members what one of the more common terms used by environmentalists means.

Don Kuntz

An item illustrating the danger of minute percentages of pollution was carried in THE MOLLUSK of the Greater Miami Shell Club, November, 1977, 15(11):10, which was reprinted from THE MIAMI HERALD of

October 21, 1977. The article follows:

'WATCHCLAMS' SUGGESTED TO CHECK MINOR OIL SPILLS

FAIRBANKS, Alaska -- A tiny mollusk found along much of the northern coastline of the United States could serve as a "watchclam" for minor oil spills, a University of Alaska researcher says.

He says the fingernail-sized clam burrows to the surface of the silty mud in which it lives when it is under stress.

The clam, Macoma balthica (Linnaeus, 1758), came to the surface when scientists covered tidelands near Valdez with a coating of oil so thin that it was invisible, said David Shaw of the university's Institute of Marine Science.

The environmental chemist said in an interview that the clam's reaction to stress could be extremely valuable in detecting a buildup of oil in areas near industrial activity and oil tanker shipping lanes.

"You could have a little plot to keep an eye on," he said. "When the animals begin to show this behavior, that's a sign, 'Aha, something may be going on. Now it's time to really start looking closely with analytical chemical tools.'"

Shaw said the clam is found along the western coast of the United States from Alaska south to mid-California and on eastern and western shores of the North Atlantic.

DISCORD IN PARADISE

Morris K. Jacobson

In 1857 the British malacologist William Turton in his interesting MANUAL OF THE LAND AND FRESH-WATER SHELLS OF THE BRITISH ISLANDS pointed out an unusual evil he discovered while doing studies for his book. On p. 292 ff. he listed a large number of names of species which he had found listed as coming from the British Islands but which he doubted actually appeared there. He states his grievance as follows:

"Several of these (species) have doubtless been introduced, by mistake for some other nearly allied British species; and others have been described from specimens which have accidentally intermixed with British shells in the cabinets of careless collectors; but it is also to be feared that some have been wilfully palmed upon us by unprincipled persons, who wished to gain credit for their discovery, and to enrich their cabinets with foreign species, for which they, at the same time, coined British habitats, sometimes not even consistent with their proper station. It is curious that the persons who have been most addicted to such practices often overreached themselves; for not satisfied with adding to the Fauna species which, from their geographical distribution might possibly be found in our island, they often fixed on such tropical shells as were most easy of access, without heeding that these must at once be excluded from our Fauna when their true locality became known."

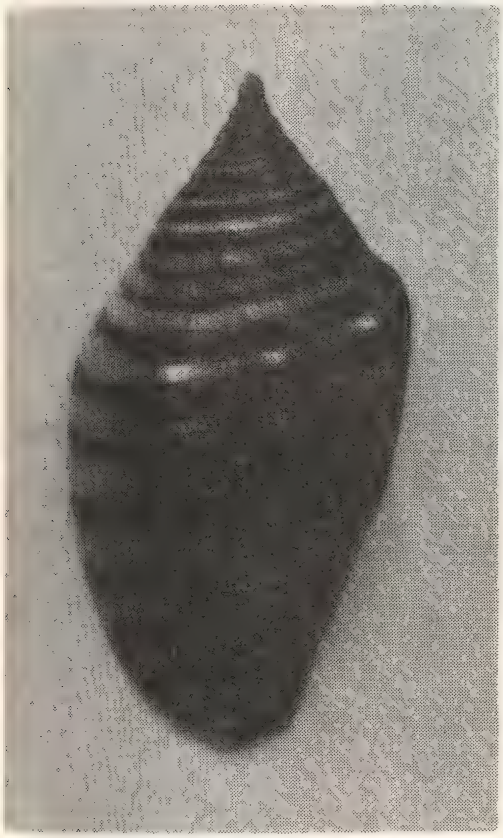
Some of the shells listed by these "unprincipled" persons are (I list the modern name): Subulina octona, Bulimulus exilis, Detracia bullaoides, Tralia pusilis, Neritina virginea etc. Mr. Turton concludes: "Thus I have felt myself called on to exclude from our Faune no fewer than 54 species."

VOLUTA (HARPULINA) ARAUSIACA (Lightfoot, 1786), BANDED FORM

Robert Janowsky

In the past few months I have been privileged to examine several specimens of Voluta arausiaca similar to the specimen illustrated. These specimens were trawled by fishing boats working off Bombay, India. This species has always been a rare one and very few live-collected specimens have been available for study. This form is distinctly different from specimens previously seen in that its pattern is banded rather than having the rather brick-like pattern seen in earlier collected specimens. A fine illustration of the more familiar form can be seen in THE LIVING VOLUTES by Weaver and duPont, plate 53, fig. A & B.

The banded form is in most respects similar to the more conventional form but is slightly more elongate and less nodulose at the shoulder. The colour of the new form seems more intense but this is perhaps because most of the specimens previously seen have been faded. This form extends the range for the species northward -- the shell was known in the past only from Northern Ceylon (Weaver and duPont). It is not of course uncommon for Volutes to show inbred morphological variations from different geographic areas and this is one more example of that fact. This variety is one of the most striking examples of the Volutidae. The illustrated specimen is rather large for the banded form, measuring about 80 mm in height.



Specimen in the collection of and photograph by Mrs. Sally Payne, Decatur, Ala.

From: CONSERVATION REPORT, AMU NEWSLETTER, FALL 1977

A SEA LEVEL PANAMA CANAL is not dead. A little-noticed section in the new Panama Canal treaty calls for a study on a new sea-level canal. President Carter is enthusiastic, though cost factors may prove a deterrent. Professor John C. Briggs, University of South Florida, says recent data he has collected reaffirm misgivings about the proposed project. A sea-level canal might permit Atlantic and Pacific marine life to intermingle and ultimately create ecological disaster. Less than 1% of fish and mollusk species occur in both of the two environments. See American Malacological Union BULLETINS for 1973, p. 46 (Meredith Jones -Ed.), 1974, p. 42 (Dr. Joseph Rosewater -Ed.), p. 76; and Resolution, Fall 1973 NEWSLETTER.

---- TODAY,
NATURAL RESOURCES DEFENSE COUNCIL
J. WHITESIDE, Conservation Committee

NEW YORK SHELL CLUB
INC.

FOUNDED JAN. 1949

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The NEW YORK SHELL CLUB meets on the second Sunday of each month, September through June, in

ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, FEBRUARY 12, 1978, at 2:00 p.m.

PROGRAM: SHELLING IN LIKELY AND UNLIKELY PLACES
by Virginie and George A. Elbert

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FLORIDA SHELL SHOWS, 1978:

Miami:	Jan. 28-30, Planet Ocean, Rickenbacker Causeway
Broward County:	Feb. 3-5, Pompano Recreation Center, Pompano
Sarasota:	Feb. 10-12, Civic Center, Sarasota
Palm Beach County:	Feb. 10-12, Colonnades Beach Hotel, Palm Beach Shores
St. Petersburg:	Feb. 23-26, Treasure Island Auditorium
Sanibel:	Mar. 2-5, Community Center, Sanibel Island

HIGHLIGHTS OF THE DECEMBER MEETING

Our invited speaker, Ramon Mendez of the American Museum's Art Department, showed slides he had recently made in Trinidad. They included no mollusks, but it was felt that all of us would be delighted with the excellence and beauty of his results - and particularly so with his tight close-ups of such small and difficult subjects as insects, birds, snakes, frogs and bats, taken in natural situations. These, together with equally fine treatments of scenery, vegetation and flowers, made up a presentation that was received with every bit of the appreciation that had been hoped for.

Between presentations, President Veronica Johns reported that the banging from the anteroom that had accompanied the butterflies and orchids was one of our members trying to remedy an unprecedented difficulty. We had been locked into our meeting room - fortunately, briefly. The trouble lay with the new sales counter for the recently modernized Hall of Reptiles. The attendants have a key because they store merchandise in lockers in the anteroom. There was no on-the-spot solution of the coordination problem, but it doesn't seem unreasonable to expect that one will be found.

The second speaker was Bill Old, who had attended all three of the national conchological conventions of the past summer, and proved it with pictures. The meetings were: Western Society of Malacologists (Pomona, California), American Malacological Union (Naples, Florida) and Conchologists of America (Fort Lauderdale, Florida).

Milton Werner, Recording Sec'y.

REVIEW:

LIVING MARINE MOLLUSKS

by C. M. Yonge and T. E. Thompson. William Collins Sons & Co., Ltd., London, England, distributed by American Malacologists, Box 4208, Greenville, Delaware 19807, 1976, 288 p., illus., $13.95.

This delightfully written and bountifully illustrated introduction to the natural history of marine mollusks provides a wealth of information to anyone interested in these denizens of the sea. Originally intended as an account of the temperate fauna of the British shores, the scope of the book was expanded to include a variety of mollusks from other climes, as well as examples of those inhabiting the open seas and the abyssal depths. The result is an excellent general account of the biology of these invertebrates. The focus is, however, placed on the British fauna, and the reader will encounter statements intended by the authors to apply only to their local fauna. For example, the scaphopods are said to live always below tidal levels, which is not the case for some species in other parts of the world. In future editions, these editorial lapses should be corrected.

The first three chapters are general accounts pertaining to the history of malacology and the nature and classification of mollusks. The remaining 15 chapters deal with the different classes of mollusks: 1 on polyplacophorans (chitons), 7 on gastropods, 6 on bivalves, and 1 on cephalopods. The scaphopods are incorporated in a chapter with the "anomalous bivalves." The aplacophorans, or solenogastres, are briefly described in the chapter on classification, and the monoplacophorans are treated in the discussion of the nature of mollusks. Thus, the sea-dwelling representatives of the seven classes of living mollusks are adequately treated, together with some extinct marine forms, to give the reader an insight into the extraordinarily diverse results of molluscan evolution.

Understandably, the most thorough accounts pertain to the authors' specialties: the bivalves by Yonge; "Opisthobranch, sea-snails" and "Sea-slugs," the chapters contributed by Thompson. In these presentations, both authors drew heavily on their own extensive studies of these groups for which they are two of the foremost authorities.

This volume is a most welcome addition to the contemporary introductory texts on marine malacology. It is especially recommended to the general reader as a primer on shells, a subject that has long evoked in mankind an aesthetic appreciation of the almost infinite variety of form and structure exhibited by these gems from the sea.

William K. Emerson
Department of Invertebrates
American Museum of Natural History

(Reprinted from BioScience Vol. 27 No. 12 (p.818), 1977.)

An Added Note re: MUSKINGUM RIVER MOLLUSKS (See: NOTES 237.2)

From Dr. David H. Stansbery, Ohio State University Museum, November 29, 1977: "Recent studies of the lower Muskingum indicate that at least some individuals of the more common species still survive in its waters but that the molluscan fauna there was reduced in diversity to about a fourth of the original variety present."

A FASCINATING EXPERIENCE "DOWN EAST"

As a child, upon reading Augusta Foote Arnold's account in "The Sea Beach at Ebb Tide" of the Bar Harbor area, I was determined that some day I would visit this fabulous place. This ambition has been realized many times over, as my wife and I have spent most of our vacations, for more than twenty-five years, either on Mt. Desert Island or in nearby sections of Maine's Hancock County. In recent years we spend nearly a month there, usually in late August and September, and invariably leave with great reluctance. As an aside, we are vastly amused by tales of tourists who arrive on Friday night, reserve a motel room for the weekend, then on Saturday ask for a refund because they "have seen all there is to see."!

One method of collecting specimens of Buccinum, Neptunea and, occasionally, Colus, is to haunt the town docks in late afternoon, meet the incoming lobster boats, and try to engage the (usually) taciturn lobstermen in conversation, particularly with regards to the possibility of setting aside a few "wrinkles" (Buccinum) or "Ten-Ringers" (Neptunea) which get into the traps. (There seems to be no local name for Colus stimpsoni.) There is also the hope that one of the lobstermen will have failed to thoroughly wash down his boat on the run in, and that specimens of the aforementioned species may be found rolling about on the deck, or even wedged in the slats of a trap which has been kept aboard.

Two summers ago, while engaged in this often frustrating activity, one of the more friendly boat owners said, "You ought to meet Dave Blaney, out on Ironbound." Further details were rather vague, but to the general effect that Mr. Blaney shared an interest in "conkles" (general term for larger snails), and might have some information about them. I might have forgotten this conversation but for the fact that several days later I had the unbelievably good fortune to find 26 years of "The Nautilus," 23 of them bound, no less, in an antique dealer's stock, and was able to purchase these, with other old shell papers, for a modest price.

In reading some of the earlier issues I came upon articles, around the turn of the century, concerning dredging for mollusks in Frenchman's Bay by one Dwight Blaney, of Ironbound Island. Suddenly it all fell into place -- Dwight Blaney -- Ironbound Island -- Dave Blaney -- Tonicella blaneyi -- of course! But our vacation was over, and I could do little about it then.

In the ensuing months I checked "American Malacologists," found that information was wanted on Dwight Blaney, verified this with Tucker Abbott and tried to write to David Blaney who, I had been told, spent the winters "somewhere up in Boston." There was no reply. Upon arrival at Bar Harbor this year, I gathered further bits of information, including a brief description of the Blaney's boat, plus the fact that he frequently came in from the island for various reasons. A few days later, I spotted the "Sea Pigeon" at the dock, located Mr. Blaney and introduced myself.

He seemed genuinely pleased that someone was interested in the island and in his father's collecting activities, and graciously offered to take my wife and me out to Ironbound next day to see the "studio" and the collection. Needless to say, we accepted, and were made welcome at the island dock by Mr. Blaney's sister and others, and were given a tour of part of the island, including an incredibly rough jeep ride, to meet Mr. Blaney's wife and to see the family's present homes, the family burial plot under a grove of huge spruces, and finally the "studio," where much of Dwight Blaney's collection is still intact.

The Blaney family has owned Ironbound Island, largest island in Frenchman's Bay, for more than three generations, and various family members spend about nine months of each year on the island which is, incidentally, without electricity. During the first half of the 19th century a number of families lived on the island, catching local fish, boiling them to extract oil, which was then marketed. Some of the large iron caldrons are still on the island. David Blaney, spry and active at 75, is the son of Dwight Blaney, who died in 1944 at the age of 79. The father, who was a landscape painter, architect and naturalist, dredged extensively for mollusks in Frenchman's Bay in the years around 1900. He also collected land snails, bird skins, artifacts from shell heaps, and antiques. Except for the bird skins, which he donated to the Boston Society of Natural History, much of the collection remains on the island, housed in his "studio," near the island's center.

We were shown numerous cabinet drawers containing hundreds of the smaller dredged specimens, all mounted in glass-topped boxes and meticulously labelled. Dwight was often visited by Edward S. Morse, a more famous Maine malacologist, known to some of the family as "the absent-minded professor." The numerous "Frenchman's Bay" locality records in Charles W. Johnson's "List of the Mollusca of New England" (1915) would suggest that he consulted the Blaney collection.

After a pleasant and all too short visit, with its fascinating glimpses of the life of a Victorian naturalist, we returned to Bar Harbor with a feeling of considerable satisfaction and a hope that this interesting collection might ultimately come to rest in some center of malacological research.

Earl H. Reed, Assistant Director

Springfield Science Museum
Springfield, Massachusetts

SNAIL-RAISING PLANNED

DELRAY BEACH -- Federal authorities want to spend $2.5 million to build 28 miles of dikes near here for the sole purpose of raising snails.

And the snails would be bred for the sole purpose of being fed to the rare Everglades Kite, one of the most endangered species in the country.

The kite eats only snails, and even has a hooked beak designed to pry snails out of their shells. But there are only 150 of the birds known to exist in marshy South Florida.

. . . TODAY, Dec. 15, 1977

The snail in question is the Florida Apple Snail, Pomacea paludosa Say, unable to flourish in the drained Everglades.

THE PINK ANGEL

Ethelyn Woodlock

In all of my years of shelling, I have dug very few Angel Wings (Cyrtopleura costata (Linné, 1758)). The first time we had a guide who did the digging. I still have the two he dug, in jars of alcohol. Many years later I dug my first one by hand, on mud flats a few miles south of Fort Myers Beach, Florida. I have that specimen, too, even though it is nicked.

Last winter during a visit to my brother Carl in Largo, Florida, he took me to a causeway where the mud had Wing holes so numerous that it is hard to walk between them. We dug twice, trying to get perfect ones, but no luck, nicked edges. The shell is fragile and chips so easily. Before going home I said, "Let's try once more." We got nine out of that one dig:

First, we drew a fifteen inch circle around five holes that were a small hand-span apart. Then we dug a ditch at least fifteen inches deep. We took turns with one small trowel. We dud diligently, mud up to our elbows. We finally sat back on our heels and looked at each other. We must have used our ESP for, without speaking, we leaned forward and lifted the heavy center out of the hole. It broke off at the tops of the Wings. One small one was in the hunk we removed. Carefully we took it out of its mud hole. Then, just as carefully, we took the deeper ones. Five perfect, beautiful Wings. There was another on the edge next to me and three next to Carl. We got them, too.

At this point I will say that no one could possibly take all of the Wings off that causeway. I have heard of commercial diggers ruining a bed, but I cannot see how it could be done. I am sure that the few we took did no harm to that population.

Between "Angeling" we had been picking dead Rose Tellins (Tellina lineata Turton, 1819). These are all over the mud flats at every low tide. If there are thousands of Wings, there must be a million Tellins. Many people go for them alone. I wanted them for gifts, and Carl needed more for a Sailor's Valentine his wife, Annie, was making with my help.

We arrived back in Largo with pails full of Wings and Tellins. Annie started cooking Wings. As I picked one out of the pail I saw pink inside and Carl said, "That's the one that bit me when I dropped the Tellin in by mistake." But I discovered two more pink spots on each side of the animal and they had been there long enough to become embedded in a depression they had made. I feel that they had been there a long time. Bill Old thinks so, too.

I put the Pink Angel in alcohol so Bill could see it when I got back to New Jersey. No Wing ever had better care; it was hand-carried on the plane. Carl thinks the "pinkies" got in the Wing while in his pail and Bill thinks that the two at the sides were in the Wing when we dug him.

Later I learned that in a number of colonies of Angel Wings, especially on the west coast of Florida, there are to be found many of these pink-splotched or pink-spotted specimens. Why the coloration? It is still a mystery.

SOME NOTES ON THE MOLLUSCAN FAUNA OF BREVARD COUNTY, FLORIDA

Morris K. Jacobson

Brevard County (pronounced Brē-värd′ and not to be confused with Broward County, pronounced Brou′ẽrd) lies along the east coast of Florida in the central part of the state. Its big cities are Titusville (county seat), Cocoa, Merritt Island, and Melbourne. Its chief topographic features are the Indian and Banana Rivers which separate the mainland from a narrow beach strip along the Atlantic Ocean. It also has a variety of small lakes and streams. It is flat country with a top layer of sand. It forms part of the Pamlico Terrace which was under water as recently as ten to twelve thousand years ago. The Terrace includes most of Southern Florida to a line approximately from Sarasota to Fort Pierce, with a wide band along the east coast (including almost all of Brevard County) and a somewhat narrower band along the west coast. This entire section of Florida, about one-third of the entire state and by far the most populated section, is the part that is expected to be under water again if the sea level rises even fifty feet or so.

Brevard County is best known today as the home of the Kennedy Space Center at Cape Canaveral. This explains such names as Nasa, Apollo, Apollo 11 (Apollo Eleven, NOT Apollo the Second) and Gemini for local streets and Satellite Beach for a city. Even the local shell club is called the Astronaut Trail Shell Club. The county is also the home of Harris Electronics Corporation which was in the news recently as the supplier of electronic equipment to Idi Amin of Uganda.

When I first arrived here I was surprised to see huge numbers of dead, whitened marine shells almost everywhere, but especially along the roads and highways. For a while I thought that these had been brought in together with white beach sand to help build the roadbeds of the highways. Never mind that it made no sense to lug in sand from the beach to areas already covered with sand, that's what I first thought but not for long. While biking along Minton Road in Malabar one day, I happened to cross a bridge over the Tillman Canal. I rested my bike on the railing and looked down into the slow-moving water, much of it covered by water hyacinth, that handsome but exceedingly pestiferous introduced plant. Then I saw it: in the bank, about eighteen inches below the surface of the soil, was a foot wide layer that had been exposed by the digging of the canal. On quick inspection it turned out to be a layer containing huge numbers of fossilized marine shells. Then it dawned on me: the mysterious marine shells which I had been noticing everywhere were the shells left behind when the Pamlico Terrace rose above the water.

On a second visit I examined the exposure more closely and found that it ran for a long distance along the canal cut. Many shell specimens had been washed out by rains, but most of them still remained in situ. From these I took a number of cuts to wash out and examine at home.

The matrix seems to be a yellowish gravel which stains the shells it encloses. The shells themselves were thickly compacted, many bivalves with both valves still in place. The shells all seem to be identical with Recent shells -- there are no interesting extinct species like in so many other Floridian fossil exposures. The vast majority are bivalves; very few gastropods have turned up as of now.

Fossil exposure, Tillman Canal at Minton St., Malabar, Brevard County, Florida, November 1977

Close-up with knife sheath to indicate size.
Photographs by M. K. Jacobson

I was surprised to see that there was a complete lack of other fossils: no sharks' teeth, no fish bones or skulls, nothing but molluscan shells. In a later report I propose to offer a complete list of the shells I found. For the moment I will only say that the most prominent species were numerous large, heavy specimens of Mercenaria campechiensis Gmelin, huge numbers of Laevicardium mortoni Conrad, and Lucina floridana Conrad. The most numerous small shells were Parastarte triquestris Conrad and Gemma gemma Totten. Gastropods, as stated, were few in species and specimens. I found only a handful, including Marginella, Cerithium, Oliva, Busycon perversum Linné (= B. contrarium Conrad) and Melongena corona Gmelin.

As far as living marine shells are concerned, I can only point out that most of the lengthy ocean shore of Brevard County is a long, straight beach, such as is not particularly favorable for supporting a rich molluscan fauna. However, the Indian and Banana Rivers (actually extended estuaries) present somewhat more favorable conditions, but only to the strainer or dredger. Sebastian Inlet, on the border between Brevard and Indian River Counties, is a delightful exception. It has a variety of habitat niches and consequently a very rich and varied shell fauna. It is one of the best collecting places on Florida's east coast. Unfortunately it may soon be subject to change. At the moment the local shell collectors are excited because the state is undertaking extensive dredging activities to deepen the channel and to widen the beaches. Such circumstances always promise particularly good and easy shell collecting, but along with it comes the inevitable silting and consequent destruction of habitat niches.

(To be continued)

THE FLORIDA TREE SNAIL, Liguus fasciatus, is one of 20 snail species now proposed for endangered and/or threatened status by the U.S. Fish & Wildlife Service...Several Tennessee River system pleurocerids, including the AMU's symbolic species Io fluvialis, and five California snail taxa are included in the proposal.

(AMU NEWSLETTER)

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NEXT MEETING:	SUNDAY, APRIL 9, 1978, at 1:00 PM	
THE PLACE:	BROADWAY DANCE STUDIO 31-08 BROADWAY ASTORIA, QUEENS, NEW YORK	(Phone: As.4-1503) (Directions below)
PROGRAM:	A VERY SPECIAL FILM BY RUSSELL JENSEN AUCTION . BARGAIN TABLE . DOOR PRIZES RAFFLE . REFRESHMENTS . BUFFET SUPPER	

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CLUB SOCIAL TO BE HELD APRIL NINTH

It is, perhaps, a good omen that the '78 Club Social can be held on the second Sunday of the month as are all other meetings. Most years we have to adjust to Easter or Palm Sunday or Passover but this time the way is clear.

Once again member Dorothy Jensen has made available to us the Broadway Dance Studio, 31-08 Broadway, Astoria. (Directions for reaching the studio appear below.) Coincidentally Russell H. Jensen (who is not related to Dottie) will be our speaker. A superlative photographer, he will show a film made on a recent shelling expedition to Tahiti, Moorea and other garden spots of the Pacific. Russ is a sheller who really gets his feet and his camera housing wet, so you may expect stunning underwater footage.

There will be a buffet supper, preceded by a cocktail hour with a choice of alcoholic or non-alcoholic beverages. And, ladies, we again look forward to your marvelous homemade cakes which so deliciously top the supper.

To defray the cost of the catered supper, chair rental, etc., members and their guests will be asked to make a donation of $4.50 for adults and $2.25 for children under twelve years of age. Even this will not make the party self-supporting. To avoid dipping into the Club's treasury, even to enrich it if possible, we must have a bang-up auction. Shells and related items will be most welcome for either the auction or the bargain table, as an item to raffle or for a door prize. Something that no longer interests you will be a treasure in somebody else's collection; something really beautiful will bring joy to the buyer.

The social has run into the red in the past due to overestimation of attendance. Such affairs usually sell tickets in advance and the caterer can be told how much food to prepare, but with us it is pure guesswork. If we guess too low, more can be ordered up to the last hour, but if we overestimate we must pay for those extra suppers. If at least some of you would communicate with me in advance, either by postcard to 155 East 38th Street, New York, N.Y. 10016, or by phone to (212) LE.2-8690, telling me whether you plan to attend and, if you do, how many there will be in your party, that will make my rough guess much smoother.

The party begins at 1:00 pm and the studio will be open one hour earlier to receive contributions to the auction and bargain table. Come to the Broadway Dance Studio on the second floor of the building on the corner of 31st Street and Broadway. From Manhattan take the B.M.T. subway, ASTORIA line, to the BROADWAY stop and you are right there! Or I.R.T. FLUSHING line to QUEENSBORO PLAZA, transfer free to B.M.T. ASTORIA line. From Jamaica, the IND. subway to Roosevelt Avenue, free transfer to I.R.T. Flushing line to Queensboro Plaza, transfer again to B.M.T. Astoria train. By car: Queensboro (59th St.) Bridge to Northern Boulevard to 31st Street (under the EL) to Broadway. Or Triboro Bridge to the first exit in Queens, turn right under the EL along 31st Street to Broadway. From Long Island, take Grand Central Parkway to the last exit before the Triboro Bridge, go a short distance along Astoria Boulevard to 31st Street, turn left under the EL to Broadway -- a distance of about six blocks.

That may sound complicated but it really isn't. It's only about 20 minutes from Times Square. Remember that if you don't decide until the last minute you can still be accommodated and fed. It is those of you who don't come and don't tell us you are not coming who run up the bills. Besides, the rest of us miss you if you are not there.

Veronica Johns, President

HIGHLIGHTS OF THE JANUARY MEETING

Philadelphia, it would seem, is harboring a budding naturalist who is wasting no time. A letter from her (her name is Sonia) to the Club, conveyed to the membership by President Veronica Johns, requests information about the oyster, and asks that we send her one. No immediate action was taken.

Our invited speaker, Dr. R. Tucker Abbott, opened his presentation by demonstrating a toy wind-up snail, noting that it did not belong to him. His subject was a broad look at methods of collecting, and collecting locales. He discussed the possibilities that beach collecting offers, mentioning several representative areas, and adding the caution, "When conditions are right." Enlarging on this point, he described the storm patterns and seasonal variations that often produce good shelling on beaches and in littoral areas. As an example of the fluid nature of the pursuit, he cited Cittarium pica, which disappeared from Florida more than 100 years ago, but recently has been found alive at Marathon, Florida, and off the lower Keys. With the aid of slides, he surveyed collecting on rocky shores; in specific locales that included Long Island, the Bahamas, Bermuda, and the Solomon Islands; freshwater shelling, and collecting with the snorkel, SCUBA gear, dredges and traps. Dr. Abbott also brought for display a large Cassis that bore the exquisite work of a master carver of a century ago.

Milton Werner, Recording Sec'y

SOME NOTES ON THE MOLLUSCAN FAUNA OF BREVARD COUNTY, FLORIDA

Morris K. Jacobson

Part II

Because of the sandy nature of the soil, I do not anticipate a very rich land snail fauna. So far I have seen the omnipresent Polygera cereolus Muhlfeld, but only in restricted areas like my garden. In addition I found some Zonitoides arboreus Say and a few as yet undetermined zonitids. However, nearby there are some large swales with a thick growth of palm and other trees which look quite promising.

A quick, incomplete survey of the available literature shows very few molluscan records of land and freshwater species from Brevard County. Pilsbry has only five citations from the county, most of them from Micco, a small settlement about fifteen miles south of Melbourne. Fred Thompson cites only five species of hydrobiids in his 1968 study of the Hydrobia of peninsular Florida. I am sure there are other published records, but for the moment the literature containing it is not at hand.

As for the freshwater snails of the county, I have to date collected Physa cubensis Pfeiffer, Helisoma duryi Wetherby, and a few undetermined hydrobiids. I have also discovered a lively and extensive colony of the imported Asian species Melanoides tuberculatus Müller in the town swimming pool of Palm Bay City. Although a non-native snail, it appears to be by far the most numerous species in the pool, and represents one of my most successful mollusk captures in Brevard County since my recent arrival here. Fortunately I was able to collect a good lot of specimens before tragedy struck:

Genocide in Old Brevard!

In shallow water the bottom of the town swimming pond is of white, fine sand. This has always been criss-crossed by the twisting, intricate trails left by the snails apparently in their search for food, whatever that may be. On Wednesday, December 15th I went to the pond for my warm-daily swim (cold-daily swims I avoid) and I was astonished to find not a single living specimen of Melanoides which had been so prevalent only a few days earlier. Where had they all disappeared to?

The mystery was soon cleared up. Superimposed upon the intricate snail trails were large numbers of clearly defined duck foot tracks. A few ducks were also seen floating satedly on the surface opposite, ducks I had not noticed on any of my earlier trips to the pond. I did not catch and dissect a duck to examine its stomach contents, the only accurate way of determining what it had really been eating. But it is reasonably certain that the ducks had made a meal of Melanoides. It was astonishing to see how thorough they had been: they had apparently not missed a single snail, from minute newly hatched baby to mature adult. At least I could discover none after a long search.

* * *

This event is interesting from two points of view. First, as is well known, Melanoides tuberculatus is an Asian snail that has invaded Florida and other southern states. Usually such an introduction of an alien species turns out to be harmful to the local flora or fauna, since the intruders increase amazingly in numbers. There is no native biological control to keep their numbers down. However, here we find native wild ducks serving as an active and very effective control. In addition, the advent of Melanoides may prove especially beneficial for the ducks. It provides a rich new source of food which might cause the duck populations to flourish. This for the first comment.

Second: Dr. Harold Murray of Trinity University in Houston, Texas, has recently been studying a disease of the nictitating (tear producing) membrane of the eyes of wild ducks in the Houston Zoo. He has found convincing evidence that the disease is caused by a trypanosome, whose vector is none other than Melanoides. Hence, if I may be permitted a dramatic observation, there is here a mini-war of the disease bearer against the eyes of its victim, and the victim against its disease bearer. Who can win?

SEA SHELL 'TREE RINGS' FROM THE SEA SHELF

Just as tree rings record climatic conditions on land, a bivalve mollusc named Arctica islandica has been found to record conditions of the shallow ocean by variation in the width of annual bands on its hinge plate and outer shell layer. Ida Thompson and Douglas S. Jones of Princeton University are studying this banding with methodology borrowed from tree-ring research. They have confirmed that the bands are annual, that they vary in width and that shells with up to 150 bands are available. Their working hypothesis is that minimum winter temperature is the most important factor controlling the width of the annual bands. Species of Arctica are not uncommon as fossils, they say. Sectioning of the shell of one species from Alberta reveals beautifully preserved banding. "Eventually," Thompson and Jones suggest, "paleo-ocean conditions may be read from fossil Arctica shells."

SCIENCE NEWS, Vol. 112, Nov. 26, 1977
(Contributed by Henry S. Gordon.)

The following article appeared in NYSC NOTES No. 185.7, reprinted from PACIFIC NORTHWEST SHELL NEWS, Vol. II, No. 2, March, 1962:

READING SHELLS

by Dr. H. C. McMillin

Some years ago I was studying the razor clams of the west coast and was involved in the making of logical regulations for the legal control of the fishery. The biological basis of control is age of clams and the key to age determination is the growth rings of the shells. Near Kukak Bay (Alaska) I found the very beautiful tellin T. lutea, with all the bright sunrise and sunset colors on the inside of the shells. I saved a few specimens and studied them in relation to the age-growth studies I was making. Apparently some of them were very old. The winter marks were definite and consistent. If my readings were correct some of my specimens were 45, 46, and 47 years old.

One mark disturbed me. It appeared to be two winter rings close together, and could have been caused by an unusual climatic condition or a heavy storm locally. Counting back from the edge I concluded that the evidence indicated the year 1912, and the time as being in the spring about the time the clam started to grow.

I then dug a large number of specimens of all ages. On each shell I found what I came to call "the 1912 mark." Shells which were not old enough to go back to 1912 had no double rings. Therefore, the cause must have been something that happened only once in the last 47 years.

After some time I asked an old-timer in the community what had happened in the spring of 1912. Immediately he began to tell me of the Katmai eruption in April 1912. At night a great volcano stood in the local mountain chain. In the morning the entire mountain had been blown away and only a big hole remained at the spot. Ashes fell on the roofs of Kodiak, 80 or more miles away, and crushed them. All summer the water for miles around was covered with ash and pumice. Nothing grew normally; not only the shells, but the trees were also marked.

I then had no doubt that the annual ring method of age determination was sound. People that claimed the ages could not be determined accurately from shells had only failed to learn to read ....

REVIEWS:

MOLUSCOS DEL GOLFO SAN MATÍAS

(Rio Negro Province, Argentina) by Victor Scarabino. Comunicaciones de la Sociedad Malacológica del Uruguay, vol. 4, nos. 31-32, 1976-1977 (Spanish, brief English summary).

One hundred twenty-five mollusks are keyed out, illustrated, and ranges given. This is an excellent local account which includes excellent keys for identification and fine, recognizable line drawings of most of the species mentioned. Each species is provided with a synonymy, an account of its range, and the precise habitat it inhabits within the Gulf of San Matías. Although mimeographed, this is a splendid piece of work which deserves a place in every malacological library.

The same issue includes an obituary of the well-known Argentine malacologist Alberto Carcelles (1897-1977) by J. J. Parodiz and a list of the malacological works he published.

Non-subscribers to the COMUNICACIONES who wish to obtain a copy should contact: Jorge Pita, Casilla de Correos 1401, Montevideo, Uruguay.

It is pleasant to report the appearance of four more numbers of the valuable and interesting OCCASIONAL PAPERS ON MOLLUSKS published by the Mollusk Division of the Museum of Comparative Zoology. As usual they are authoritative and carefully researched. Lyons' paper discusses two Jamaican lectotypes which had been selected by Clench and Turner (1950) and suggests some changes. The titles of the other papers are self-explanatory. All are well illustrated.

William G. Lyons. COMMENTS ON THREE JAMAICAN MELLANELLID SPECIES DESCRIBED BY C. C. ADAMS, Occasional Papers on Mollusks, vol. 4, no. 55, pp. 149-160, Department of Mollusks, Museum of Comparative Zoology, Harvard University.

Richard I. Johnson. MONOGRAPH OF THE GENUS *MEDIONIDUS* MOSTLY FROM THE APALACHICOLAN REGION, SOUTHEASTERN UNITED STATES, Ibid., vol. 4, no. 56, pp. 161-188.

Kenneth J. Boss. MONOGRAPH OF *IACARA* (BIVALVIA: SEMELIDAE), Ibid., vol. 4, no. 57, pp. 189-228.

Richard I. Johnson. ARNOLD EDWARD ORTMANN, A BIBLIOGRAPHY OF HIS WORK ON MOLLUSKS, WITH A CATALOGUE OF HIS RECENT MOLLUSCAN TAXA, Ibid., vol. 4, no. 58, pp. 229-244.

Of special interest in Occasional Papers are the 'fillers' which complete the leaflets. For example, in no. 54 Harriet Hornblower contributes a brief but valuable description of Alcide d'Orbigny's South American Expedition (1826-1833) which resulted in his monumental VOYAGE DANS L'AMERIQUE MERIDIONAL (1835-1847), the basis of all studies of South American mollusks. In no. 56 the same author reviews Sarah Hurlbut's MUSSEL COOKBOOK (Harvard University Press, 1977). Besides being an excellent cookbook, Ms. Hornblower reports that it also contains strong arguments to induce us Americans to make more culinary use of this succulent and inexpensive source of marine proteins. No. 57 contains a brief biography and bibliography of Norman MacDowell Grier by R. I. Johnson plus a list of the novelties he introduced mainly in the naiads. The same number also contains Dr. Boss's review of T. Habe's SYSTEMATICS OF MOLLUSCA IN JAPAN (BIVALVIA AND SCAPHOPODA). In spite of many excellent features in this work, Cr. Boss found it to be "regional and parochial." He concludes that "critical revisions of most oriental taxa continue to go begging." I think this means that too many unevaluated novelties have appeared recently in publications devoted to the shells of the Far Eastern Seas. And finally no. 58 contains a brief history of the Carnegie Museum of Pittsburgh and its valuable collection of unionids.

The price for these superb publications is surprisingly reasonable, especially in these days of rampant inflation. Those interested in subscribing should contact Dr. Kenneth J. Boss, Division of Mollusks, Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts 02138.

M. K. Jacobson

MALACOLOGICAL ARTICLE OF THE MONTH

"Some effects on muscle and nerve of crude venom from the gastropod *Conus striatus*," is discussed in an article with this title by R. Endean, Helen Williams, P. Gyr and Jan Surridge in Toxicon *14* (4): 267-274 for 1976. The poison elicits spontaneous activity in nerves and skeletal muscles. Spontaneous twitches with amplitudes much greater than normal occur in isolated guinea-pig atria. The activity of the venom is modified by heating at 100° C.

Henry D. Russell

THE FEEDING OF CYMATIUM

(From: Greater Miami Shell Club's THE MOLLUSK, 15(11):8, Nov. 1977.)

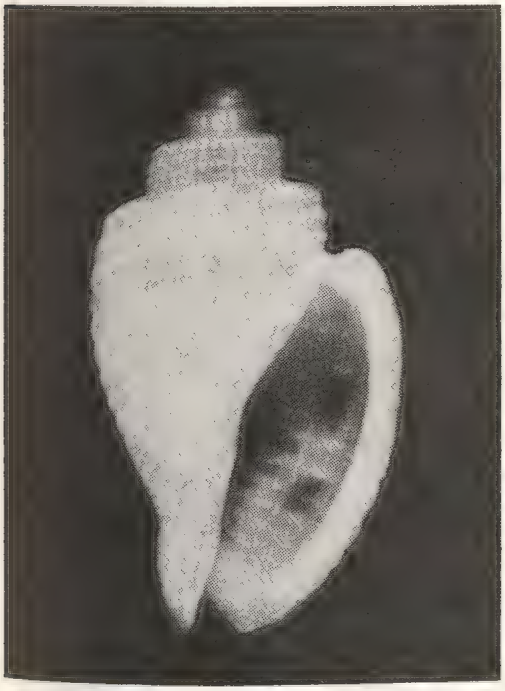
Most aquarists find that Tritons, like Tuns and Helmets, feed on echinoderms, especially sea stars. In aquarium studies, it has been shown that Cymatium nicobaricum, the Gold-mouthed Triton, is one of the most voracious members of this genus, eating only gastropods in captivity. The following genera were consumed: Turbo, Cerithium, Cypraea, Cymatium (2 spp.), Morula, Purpura, Coralliophila, Mitra, and Conus (4 spp.). Other small cymatiids, such as C. pileare and C. muricinum, fed exclusively on bivalves. (Reference: Houbrick, J. R. and V. Fretter, 1969. Some aspects of the functional anatomy and biology of Cymatium and Bursa, Proc. Malac. Soc. London 38, pp. 415-429.)

George Fraga, Editor

(AUSTROHARPA) EXQUISITA (Iredale, 1931)

Robert Janowsky

The family Harpidae is surely one of the most popular with collectors everywhere. Almost everyone is familiar with the beautiful colors and shapes of these shells which have a wide range of distribution throughout the Indo-Pacific. There is only one recent species in the Atlantic - Harpa doris Röding 1798 from West Africa and Ascension Island, and only one in the Eastern Pacific - Harpa crenata Swainson, 1822, which ranges from West Mexico to Ecuador.



Austroharpa exquisita
Photo by Robert Janowsky

Few people are familiar with the small number of Harpidae species which are found in Australia. Four in number, these have been assigned to the subgenus Austroharpa Finlay, 1931. All four species are much smaller on the average than their more familiar Indo-Pacific relatives and are not as colorful. All four are considered rare and few specimens have been collected. The illustrated specimen is (Austroharpa) exquisita (Iredale, 1931). It measures 21 mm and was trawled off Cape Moreton, Queensland, Australia in 1965 at a depth of 60 to 70 fathoms. The specimen is light coffee colored with strong cancellate sculpture. The nucleus and protoconch are dark brown and there are three interrupted brownish bands, two on the body whorl and one on the shoulder, which appear as reddish-brown blotches. While not as showy as a Harpa costata (Linné, 1758), Austroharpa exquisita is rarer and in its own way just as beautiful.

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The NEW YORK SHELL CLUB meets on the second Sunday of each month, September through June, in THE AMERICAN MUSEUM OF NATURAL HISTORY, Room 319, with the following exception:

NEXT MEETING: SUNDAY, APRIL 9, 1978, at 1:00 PM
THE PLACE: BROADWAY DANCE STUDIO (Phone: AS.4-1503)
31-08 BROADWAY
ASTORIA, QUEENS, NEW YORK

THE PROGRAM: PARTY !! (See below.)

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NYSC ANNUAL SHELL-SOCIAL APRIL 9

Our April 9th social promises to be *the* best. High spot number one will be Russell Jensen's presentation of his film of shelling in the South Pacific. Don't miss it!

Among the shells for auction there will be *Terebra taurina*, *Tibia fusus*, a pair of large *Tibia powisi*, *Conus monile*, *Strombus gallus* and many other shells of interest from the collection of Dr. Jane Schick. Dr. Schick donated her shell collection to the New York Shell Club when she moved to North Carolina last fall, and we receive them with many thanks.

To keep us busy between-times there will be the bargain table, and raffle and door prizes. The afternoon will be climaxed by the happy hour with cocktails or punch followed by the buffet supper topped by that assortment of luscious pastries. And what a bargain all this is -- only $4.50 per adult, $2.25 per child, and you may bring a guest at the same rates. You must not miss it!

Don't forget that your donations of shells, literature and other items are needed and welcome. Bring them along, early if you can. Activities begin at 1:00 PM.

Directions to the studio appeared in last month's NOTES No. 240. Check them out for detail; note that the address and telephone number are repeated above.

dr

OUR MAY 14th MEETING at the Museum will be pretty special, too! Dorothy Jensen has for us three short slide presentations, each with taped narration. They include information, beauty, and some hilarity. Don't miss it! Also, Bill Old will give a talk on shelling in Florida. We're eager to hear it.

Mark your calendar now for May 14.

FROM THE NATIONAL CAPITAL SHELL CLUB:

Receive a complimentary issue of the newsletter of the National Capital Shell Club of Washington, D.C. Has wide interest for a growing worldwide membership. Write: NCSC Editor, c/o Division of Mollusks, Museum of Natural History, Smithsonian Institution, Washington D.C. U.S.A. 20560.

Jack Nelson, Editor, NCSC Newsletter

REVIEW:

WELSH SEASHELLS

by Dr. June E. Chatfield, Department of Zoology, National Museum of Wales, published by the National Museum of Wales, 1977. 44 pages, 70 monochrome photographs, 20 colour photographs. Price 95p plus 18p postage.

This is a very well written and well illustrated booklet which in its introductory pages acquaints the reader with molluscs, the varied types of habitats found along the coast of Wales, a bit of the history of conchology in Wales, and current situations. There follows photographic studies of more than fifty of the larger and more common species found, about half of which have been photographed in situ. The species are grouped according to habitat rather than class -- an arrangement that is particularly useful to the beginner in the field. The captions accompanying the photographs may run to a paragraph wherein distinguishing features, feeding, reproduction etc. may be noted. Although most of the species may not occur in the Western Atlantic, the information about the living animals is common to the genera and useful in studying our related species.

WELSH SEASHELLS is an excellent little booklet, especially for the field. We're sorry that it had to be confined to only a selection of the 392 or more species that have been recorded from the Welsh coast. It is available from the National Museum of Wales, Cathays Park, Cardiff, CF1 3NP, Wales. (The price of 95p plus 18p postage, as of this writing, = approximately $2.20 U.S. to which must be added the cost of an international money order.)

Dorothy Raeihle

HIGHLIGHTS OF THE FEBRUARY MEETING

Dorothy Janowsky reported that Bob Janowsky and Bill Old were not present at the meeting because the three had only recently returned from Pompano, Florida, where Bob had served as judge at the Broward County Shell Show. They were "marooned" there for three extra days by the heavy snow that closed New York's airports. Sympathy was expressed.

Frank Nelson reported having received a letter from Frank Abbottsmith, the Australian Voluta specialist known personally to many members. The somber news it conveyed was that Mr. Abbottsmith had learned that he had cancer, and could not live much longer.

The speakers were Virginie and George Elbert, who recounted highlights from their collecting experiences under the title "Shelling in Likely and Unlikely Places." Since their interest in shells developed comparatively recently, Mr. Elbert commented that the talk might have been called "Amateurs Looking for Shells." They have done most of their collecting while traveling in pursuit of their career as writers on horticulture. They discovered the fascination of shells on Sanibel, and on a return visit there had the pleasure of shelling soon after the departure of a hurricane. Displaying finds from the localities they described, they recalled experiences in fossil-hunting in Florida, and shelling in Puerto Rico; Ravenna, Italy; France, where they found South Pacific shells that had come in as ship's ballast, and had been spread as paving in a courtyard; Spain, where they found Charonia on sale as a food item in Malaga, and St. Lucia, where they collected six or seven species of Chiton. They concluded with a roundup commentary on the quality of market and restaurant seafood in the many parts of the world where they have sampled both.

Milton Werner, Recording Secretary

SNAILS AND CHINA

Some time ago, in NOTES 214:6, 215:6, we commented on an absurd report regarding the struggle in China to eliminate the scourge of schistosomiasis from the land.* Since snails are the vectors of the disease trypanosome, Mao Tse-Ting raised the slogan: "Kill All Snails!" This regardless of the fact that the vast majority of snails have nothing at all to do with the disease. The call was to hate snails and kill them wherever possible.

Now we read in a report in the magazine section of the Sunday New York Times (12/4/77) that the feud against the inoffensive mollusks had another aspect. Harrison Salisbury, author of the article, tells the story:

"In 1973 a technical mission visited the United States. An American factory gave them cornucopia-shaped ashtrays as souvenirs. When the technicians returned to China the presents were turned in to the Foreign Office and came into the hands of Chiang Ching, Mao's widow and the leader of the dreadful 'Gang of Four' and her supporters. In February, 1974, she raised the question of the ashtrays in a formal meeting of the Communist Party Politbureau. She said they were actually in the shape of snails and were a deliberate insult, implying that China was making only snail's progress in the world. She demanded that the Chinese Liason Office in Washington be ordered to raise formal protest with the U. S. Government. . . . (Later Chiang Chin) ordered a novelette written, called 'A Report Exposing Contradictions.' It revolved around a 'Capitalist-roader' . . . . who goes abroad and brings back as a souvenir a snail ashtray. He is rebuked by a heroine reminiscent of Miss Chiang who explodes: 'You bring back a snail ashtray. You yourself have a snail on your back. You just go along at a snail's pace.'"

We would guess that the cornucopia-shaped ashtrays arrived in China about the time that Chairman Mao declared war to the hilt on all snails, thus giving his then wife the idea to turn the ashtrays into an attack on her enemies -- the very enemies who have now deposed her in disgrace.

Morris K. Jacobson

---

* Mass Control of Oncomelania hupensis, Snail Vector for Schistosomiasis in the People's Republic of China, by Lois Wong Chi of California State College. Veliger, July 1, 1975, 18(1): 95-98.

SHELLS IN THE EAST RIVER, NEW YORK CITY

(Some very belated notes)

Cherita Stark

In the December, 1971 issue of NYSC NOTES (No. 177, p.7) there is a brief paragraph with the happy title, "Delightful Correction." In it, Karl Jacobson (KJ) and Dr. William K. Emerson (WKE) report the finding of live shells on Wards Island under the Triboro Bridge. Mrs. Marjorie Bogart had found Mya arenaria, Brachidontes (now Geukensia) demissus, and Littorina littorea during the summer and fall of 1971. The authors refer to page 90 of SHELLS FROM CAPE COD TO CAPE MAY where they wrote "... the East River near Hell Gate, where we are sure no mollusks of any kind have lived for generations. ..." and they express pleasure at the new finds. Perhaps I can induce a little more pleasure, since I collected live shells a little farther up the East River in 1960, eleven years earlier than the Wards Island discoveries.

Recently I've been accumulating data for the Long Island Shell Club's Monograph on Long Island Mollusks. Among my specimens and lists was information about a shelling location on the East River in Whitestone, Queens -- Francis Lewis Park at the base of the Bronx - Whitestone Bridge. My first shell collected there, Mya arenaria, dated October 2, 1960, has the rather informal, beginning-collector designation, "Whitestone Bridge Park." Six years later, on June 11, 1966, I returned and collected live Littorina saxatilis and Mya arenaria (and also dead Littorina littorea and Ilyanassa (at that time Nassarius) obsoleta at the small sand and rocky beach. After another visit there on October 2, 1968, I retained only live-collected Littorina obtusata and Littorina saxatilis, not making note of any other shells on the beach that day. Then I read the aforementioned article in the NYSC NOTES, and realized that these very ordinary species which I had collected might be worthy of attention because of where they were found, not what they were. I decided to return to the spot and then 'report in.'

I got to Francis Lewis Park next on September 10, 1972, and collected a few live species: again Littorina saxatilis, Littorina obtusata, and Mya arenaria, also Polinices heros, Ilyanassa obsoleta, Littorina littorea, Mytilus edulis and Geukensia (then Modiolus) demissus. In addition to the above live shells, Nassarius trivittatus, Crepidula fornicata, Crassostrea virginica and Argopecten irradians irradians were also collected in various states of disrepair. (I never did get to write up my information.) On November 4th, 1973, the same location provided three additional, but dead, bivalves -- Mulinia lateralis, Tellina agilis and Ensis directus, all joined pairs.

I haven't collected at the bridge in Whitestone since 1973, and would very much like to return to provide an update to these lists. After much mulling, I've decided to get this report made before further years of delay might go by. Good shelling to all of you along the 'now fertile' East River.

DID YOU KNOW

That arenaria means "living in sand?"
That saxatile means "living on rocks?"

MYTHS, MISCONCEPTIONS, ERRATA

Dorothy Raeihle

In Aristotle's time it was believed that to handle a sea hare (Aplysia spp.) could cause baldness, or near baldness if looked at too much. (Source obscure.) ... Pliny declared that Aplysia was poisonous to the touch, and recommended as an antidote asses' milk and ground asses' bones, boiled together. (The Edge of the Sea, Rachel Carson, 1955, p. 220.)

Aelianus wrote circa 200 AD that a pearl is produced when the lightning flashes upon the open shell of the living oyster. (NOTES 140.5) The Incas of Peru believed that pearls were the eggs of the pearl oyster. (Kingdom of the Seashell, R. T. Abbott, Crown Publishers, N.Y. 1972, p. 211.)

In the 16th and 17th centuries it was believed that stalked barnacles were fruits of trees that grew by the sea, and that these "fruits," with neck-like stalks, feathery cirri, and shields that resembled the folded wings of waterfowl, ripened to produce young geese. Thus the origin of the common names of Goose Barnacle for Lepas spp. and Barnacle Goose for Branta leucopsis. In the mid-18th century Linné placed the barnacles in Mollusca; it was not until the 19th century that British physician J. Vaughn Thompson published (in 1829) life studies showing them to be crustaceans. (Wonders of Barnacles, Arnold Ross and William K. Emerson, Dodd, Mead 1974, pp. 42-44.)

Another misconception, one that carried far into this century, was that the Strombidae were "carnivorous snails" ... "predatory animals" ... "scavengers" ... "carrion eaters." These remarks accompanied the description of our western Atlantic Strombus in too many books to list, even through 1955. (Actually, they are herbivores.) The misconception was a strange one, considering the many years conchs have been fished for food and thus having many observers in the field; certainly the observers must have noticed! Was it simply poor communications? At any rate, it was Robert Robertson of the Academy of Natural Sciences of Philadelphia who brought the correction to our attention, writing, "Despite many statements to the contrary in recent American books on shells, Strombus is a specialized herbivore, feeding on very delicate seaweeds (algae) or swallowing sand containing dead plant material. ..." (The Natural History of Some Marine Mollusks in the Bahama Islands, Proc. Phila. Shell Club Vol. 1, No. 5, 1959-60.) With this information, we were able to sustain Strombus species in the aquaria for periods of three years.

As for errata, fortunate is the author who catches an embarrassing error in time to correct proof or at the last minute include the errata with the new publication. The best we can do is to offer sympathy to the authors and present corrections for your information. Karl Jacobson called our attention to the confusion in the following two items:

On page 233 of Living Marine Mollusks, by C. M. Yonge and T. E. Thompson (American Malacologists, 1976), the authors write, "Many molluscan shells have served as currency. Cowries have done so in India and Africa and shell-beads or wampum -- white from the shells of the venerid Mercenaria and black from those of the whelk Buccinum circulated in New England." The fact: The very dark bluish purple area of the Mercenaria was used for the "black" wampum; the columella of the Busycon was fashioned into the white wampum. An interesting eyewitness account was written by Roger Williams in 1643:

"The (Narragansett) Indians are ignorant of Europes Coyne; yet they have given a name to ours, and call it Monèash from the English money. Their owne is of two sorts; one white, which they make of the stem or stocke of the Periwincle, which they call Mateaûhock, when all the shell is broken off; and of this sort six of their small Beads (which they make with holes to string the bracelets) are currant with the English for a Peny. The second is black, inclining to blew, which is made of the shell of a fish, which some English call Hens, Poquaûhock, and of this sort three make an English peny. They that live upon the Sea side generally make of it, and as many make as will." (The Penn Wampum Belts, Leaflet #4, Museum of the American Indian, New York.)

(Hens = Poquaûhock = quahog = Mercenaria mercenaria. Roger Williams use of the term "Periwincle" here denotes "gastropod.")

The second item appears on page 55 of Dangerous Sea Creatures, by Thomas Helm, Funk & Wagnalls, N.Y. 1976: "When moving about in search of worms and other forms of food the cone's shell is almost completely covered by the extended mantle. It is often so covered as to resemble nothing more than a small glob of living flesh. At rest, with the mantle withdrawn, even an amateur collector would recognize it as a prize find."

Conus does not extend its mantle to cover its shell. We suggest that those of you who have the book simply delete the above three sentences.

SOME NOTES ON A RARE SPECIES: CYPRAEA VALENTIA Perry, 1811

Robert Janowsky

There is little doubt in my mind that the shells comprising the family Cypraeidae are the favorites with the greatest number of shell collectors. Certainly, one of the most interesting and rarest members of this family is Cypraea valentia Perry, 1811. This view is shared by C. M. Burgess, author of the most difinitive recent monograph of this family, "The Living Cowries," who states, "I think Cypraea valentia Perry is the most magnificent cowrie. Its large size and startling markings, plus its rarity, make it outstanding in the genus." One may or may not agree with Dr. Burgess, and most certainly many other members of the Cypraeidae can compare favorably with Cypraea valentia. However, due consideration must be given to this species when the honors are handed out.

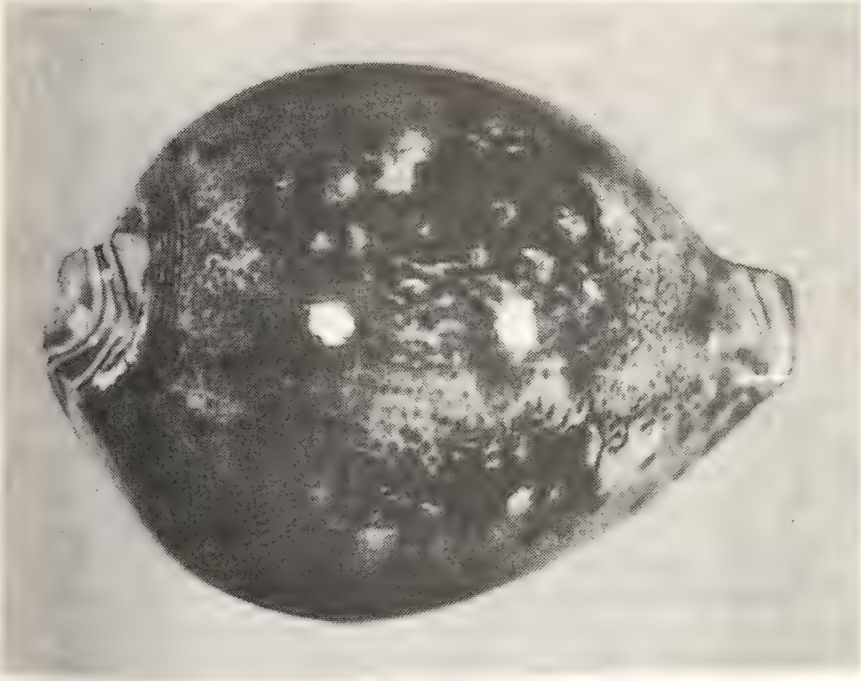
The species has always been and still is a very rare one. Melvill as late as 1880 states that the species is known from only six specimens. Very few specimens were collected after that date, and for many years the only known specimen of Cypraea valentia in the United States was in the collection of Phil Clover. Last year the American Museum of Natural History was fortunate to obtain a specimen for its collection, making it the only institution in the United States to have a specimen of Cypraea valentia in its study collection. I also now know of four members of the New York Shell Club who are lucky enough to own specimens of this magnificent shell.

Most of the specimens seen prior to 1976 were either dead collected or collected a very long time ago and are quite faded.

It looks as if 1977 will be remembered as the year of the Cypraea valentia. A sudden population explosion of the species along with new and improved techniques for collecting in the Philippines made the shell available to any shell lover who could afford its rather hefty price. These specimens were far more beautiful and strikingly colored than any of those seen before. For the first time we were able to observe the true beauty of this shell. Its rich colors of brown and mauve, the rich dark lines at the canals (a unique feature of this species) and its handsomely spotted margins along with its inflated shape makes one feel that Burgess's statement was no exaggeration.

We can now say with some degree of certainty that the species comes from Philippine waters. Until quite recently the geographical and distributional habitats of this species were unknown. The recently developed technique of sinking very fine mesh nets into extremely deep water in the area in and around Punta Engano, Cebu, Philippines has yielded the fishermen lucky enough not to lose their nets (which cost several months' pay to an average fisherman -- and losses are frequent) many rare and unusual shells, among them several of the world's greatest rarities including Cypraea valentia. We can surmise that the species is a deep water dweller since these nets are sunk at depths greater than 100 fathoms. Incidentally, what seemed to be an impending flood of specimens a few months ago has now been reduced to a trickle. I know of only two specimens that have been collected in the past several months.

The specimen illustrated is perhaps the finest that I have ever seen. It is extremely dark in color and has a beautifully defined pattern. It is 84 mm in size and is in the collection of NYSC member E. B. Martin to whom I am indebted for the use of the photograph to illustrate this article.



Cypraea valentia Perry, 1811. 84mm
In the collection of E. B. Martin.

RECENTLY ISSUED STAMPS OF ISRAEL depict Red Sea shells Malea pomum, Cypraea isabella, Lioconcha castrensis, and Gloripallium pallium. They were designed by A. Glaser, Tel Aviv.

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The NEW YORK SHELL CLUB meets on the second Sunday of each month, September through June, in

ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, MAY 14, 1978 at 2:00 PM

SPECIAL PROGRAM: TOUR OF THE DEPARTMENT OF FOSSIL AND LIVING INVERTEBRATES AND THE AMNH SHELL COLLECTION guided by Dr. William K. Emerson and Mr. William E. Old.

We meet as usual in Room 319 and proceed from there.

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DR. ABBOTT HONORED

At the annual meeting of the American Littoral Society March 18th the James Dugan Award was given to Dr. R. Tucker Abbott in recognition of his outstanding services in marine science.

Jim Dugan died June 1, 1967, off Panama City, Florida, after a 2100-foot experimental vessel dive in the DeSoto Trench. The American Littoral Society established the award in his honor.

OUR JUNE 11th MEETING will be special, too. First the annual elections, then (postponed from May 14th) three short presentations: The Pink Sands of Eleuthera, Positions, and Artifacts -- all color slides with taped narration -- by Dorothy Jensen. Following intermission, Richard Goldberg will give us Cypraea -- Gems of World Seas, also with color slides.

AMU - 1978:

The 44th Annual Meeting of the American Malacological Union will be held at the University of North Carolina campus at Wilmington July 16-21. The hosts of the meeting, North Carolina Shell Club members, have been planning some very special activities for this year's program, beginning with the Low Country Shrimperoo plus the President's Reception on Sunday to a choice of field trips -- marine, freshwater, land, or fossil -- later in the week. More details later, but mark your calendar NOW.

From: AMU NEWSLETTER
Spring, 1978

COA MEETING PLANNED FOR EARLY AUTUMN

The Long Island Shell Club will host the 1978 meeting of The Conchologists of America. The tentative date: Wednesday, September 27th through Saturday, the 30th or possibly Sunday, October 1st. The place of meeting: The Island Inn, located in Westbury, Long Island, New York.

REVIEW: 1001 QUESTIONS ANSWERED ABOUT THE SEASHORE

by N. J. Berrill and Jacquelyn Berrill, 1957. Dover Publications, Inc., New York, 1976. Unabridged, unaltered republication of the original (1957) edition. xii + 305 pp. of text, 167 line drawings and 30 black and white photographs. 5¼ x 8¼ plastic-bonded paperback 23366-9. Price $4.00 in U.S.A., $4.75 in Canada.

We applaud the republication of this excellent work which has been out of print much too long. It includes sections on collecting, what grows and where from plankton, shallow water algaes and beach vegetation through echinoderms, mollusks, crustaceans, worms, coelenterates to a few commonly encountered fishes and sea birds.

The pages 76 - 137 comprise the section on mollusks but there are additional items of reference scattered through other pages. This section was of course thoroughly perused, and it was found exceptionally informative and accurate. We found only two small items to need updating. These concerned the food of Strombus, which is herbivorous but before 1960 was generally reported as a carnivore, and the food of Pleuroploca, a carnivore which is not a specific feeder (i.e. does not confine itself to preying solely on Tonna). There is a fine description of the manner in which the moon snails manufacture their sand collars (Question #340) and another of how the scallops move about (#382), to mention only two of the 258 Question and Answer items on mollusks.

We recommend, with enthusiasm, 1001 QUESTIONS ANSWERED ABOUT THE SEASHORE to all who visit the beaches -- shellers, beachcombers, bathers -- including those with small children whose questions often stymie the adults. By all means take the book to the beach, whatever your purpose there. And if you bring material home in seawater, there are notes on keeping an aquarium.

Just get a copy.

Dorothy Raeihle

HIGHLIGHTS OF THE MARCH MEETING

Frank Nelson reported having received a letter from Frank Abbott-smith of Perth, Australia, a well-known Voluta expert who is personally known to many members. His letter informs us that, in spite of a serious illness, he is planning a trip that will include Europe and widely spaced points in the United States, with New York as one of his stops.

President Veronica Johns reported having learned that member Dr. Jane Schick has graciously donated her collection to the club. This material will be offered at the auction associated with the April social meeting.

Nick Katsaras announced that he will be forced to auction most of his collection, because of having lost the lease on his shoe-repair shop. The sale, which will include 16 years of issues of NEW YORK SHELL CLUB NOTES, complete, will be held probably in late May. In answer to a tongue-in-cheek question, he gave assurance that he will not dispose of his Marginella collection.

The speaker was Dorothy Raeihle, who offered observations on Naticidae and Polyplacophora, concentrating on local and east coast species. Using drawings, she explained how the naticid egg case, or sand collar, is formed, and how the inner structure varies from species to species. Other drawings showed how their prey is transferred from the propodium, which captures it, to the rear of the foot, which carries it. Dorothy then showed slides, made by George Raeihle, picturing living naticids. With drawings and slides, she also discussed the shell structure and anatomical arrangement of the Chitons. One of their outstanding features is the hundreds of eye spots scattered on the dorsum, each having a primitive lens, cornea and retina. Among George's extreme close-up photos were details of intricate shell textures, and the radula of a southern species, Acanthopleura granulata, with its "iron teeth" - the two outer rows of teeth actually being coated with magnetite. Other slides introduced some nudibranchs of Long Island and Florida.

Milton Werner, Recording Sec'y

NEW YORK AQUARIUM ACQUIRES LIVE NAUTILUS POMPILIUS

In the DAILY NEWS of Sunday, March 19, 1978, feature writer Bob Kappstatter presents an article, entitled "Octopus' Kin Like to Hide Their Beauty," with a photograph of a living Chambered Nautilus. He reports that the New York Aquarium has just gotten more than a half dozen of the spiral-shelled creatures after a month-long expedition to exotic tropical waters of the Western Pacific. It also acquired two young giant clams that measure 10 inches across, and a variety of coral reef fishes, all of which are due to go on public display by Easter Week, according to aquarium officials.

"Many of these are completely new to our collection," said Dr. George Ruggieri, director of the aquarium at West Eighth Street and the Boardwalk, Coney Island. He said the facility did have one Chambered Nautilus in its extensive collection, but it died recently. "When we opened it up, we found two pearl-like beads in its heart. They're probably what killed it."

The new additions come from the waters off Palau Island in the Carolinas, A U.S. trust territory about 600 miles east of the Philippines. Assistant aquarium director Bill Flynn went there last month with a team from the University of Hawaii and the Waikiki Aquarium. "We brought back hundreds of species, but the real prizes are the Nautiluses," he said.

Report by Bob Kappstatter
Contributed by Marie Sussman

(As Nautilus pompilius Linné cannot be expected to live indefinitely in captivity, we urge you to take your first opportunity to visit the aquarium and see these spectacular animals. Ed.)

OF LOCAL MOLLUSKS

THE OYSTER DRILL, UROSALPINX CINEREA (Say, 1822)

Dorothy Raeihle

The common Oyster Drill, *Urosalpinx cinerea*, is native to the Atlantic coast of North America and ranges from Prince Edward Island, Nova Scotia, to northeast Florida. It also occurs from central California to the State of Washington, having been introduced to the west coast late in the 19th century. A few years later it was carried to England on consignments of oysters.

In 1822 when Thomas Say described this muricid in the Journal of the Academy of Natural Sciences (Vol. 2, p. 236) it was placed in the family Purpuridae and called *Fusus cinereus*. A few years later it appears in the literature as "*Buccinum*" and we find it listed as such as late as the 1870 edition of INVERTEBRATA OF MASSACHUSETTS, Gould and Binney, page 370, with qualifying remarks that may have appeared in the 1841 edition: "Mr. Say noticed that its habits were those of *Purpura*; but it is removed from both *Fusus* and *Purpura* by its operculum, and will probably prove to belong to the genus *Pollia* of Gray. Mr. Say's specific name is preoccupied by another species of *Buccinum*." It was the distinguished William Stimpson who, in 1865, erected the genus *Urosalpinx* with *Urosalpinx cinerea* the type of the genus, giving us the familiar name which still stands. The names are descriptive in character; they are fashioned from the Greek *oura* = tail + *salpinx* = trumpet, and *cinerea* = ashy in color.

Urosalpinx cinerea has a moderately attractive shell with rounded axial ribs and a range in color from all white through ashy grey to yellow, and light orange to rusty brown. It grows to at least 37mm and is nice to have in a collection. And that is where the oystermen would have it, for it is predatory on other species and finds the oysterbeds an easy source of food. The conflict is that when the oysterman spreads his young oysters over an open bed he wants the native populace of Starfish, *Urosalpinx*, *Busycon*, *Polinices*, crabs, flatworms, fish, etc. to stay away from the food he has laid before them. So far, man's most ingenious protective devices -- which have included fencing, trapping, entangling, and even poisoning -- have had only partial success.

Naturalists have known for more than 2,000 years that certain carnivorous mollusks bore holes through the shell of their prey then insert the proboscis to feed on the flesh within, but the actual mechanics were not understood until recently: Melbourne Romaine Carriker became interested in *Urosalpinx* while he was a graduate student; one of his early papers was "On the structure and function of the proboscis in *Urosalpinx*" (1943. Jour. Morphol. 73). Fifteen years and many papers later he reported on the "Mechanical-chemical nature of drilling by *Urosalpinx* and *Eupleura*" (1958. Bull. Assoc. Southeast. Biol. 5). He had discovered the function of a special gland which manufactures a chemical used as an assist in the drilling of the hole: The snail alternates the application of the chemical to the spot of shell under attack (apparently "softening" it), with periods of rasping with the radula. Previously similar glands, such as in naticids, had been thought to be suctorial, assisting the snail to keep its position while rasping. The gland is now known as the "accessory boring organ."

In THE CONCHOLOGISTS' NEWSLETTER of December, 1975 there is an article, "The Distribution of the Introduced Gastropods *Urosalpinx cinerea* and *Crepidula fornicata* in England and Wales," written by Andrew Franklin and Graham Pickett of the MAFF Fisheries Laboratory, Burnham-on-Crouch, Essex. We present excerpts from their report:

> The American tingle *Urosalpinx cinerea* and slipper-limpet *Crepidula fornicata* were introduced accidentally into England with consignments of oysters from the United States of America at about the turn of the century, and have since become serious oyster pests. *Urosalpinx* destroys enormous numbers of oysters every year on many grounds in Kent and Essex, and *Crepidula*, often present in densities of many tons to the acre, seriously interferes with efficient oyster cultivation on many east and south-coast beds.
>
> The spread of *Urosalpinx cinerea* has been slow since the initial introduction,* due to the lack of a free-swimming larval stage in the organism's life history. Although transport with oysters has led to some extension in the range, the American tingle is still confined to Kent and Essex. Checks on the presence/absence of the drill are made by the use of traps which consist of covered roofing tiles placed convex side uppermost in a row parallel to the shore near low water spring tide level. These provide ideal spawning sites for *Urosalpinx*, and are examined periodically during the summer months for the presence of spawn capsules, which are of characteristic shape and easily distinguishable from those of the native drills, *Nucella* and *Ocenebra*. Results over the last three years indicate that some extension has occurred in the distribution of the tingle since it was last recorded in the late 1950s, but no new discrete areas have been colonised. *Urosalpinx* is now thought to be present from the Herne Bay region to Minster (Isle of Sheppey) in Kent and from Great Wakering to Frinton in Essex.

*Fretter and Graham observe (BRITISH PROSOBRANCH MOLLUSKS, 1962, p. 516): The points of introduction are believed to be Brightlingsea and West Mersea, Essex (Cole, 1942). Called the "American whelk-tingle," it was at first confused with the English "sting-winkle," *Ocenebra erinacea* (L.), which it resembles in size, shape and habits, and so escaped detection for an undetermined number of years.

In June Long Island shellers will find the clusters of individually attached, vase-shaped egg capsules in old clam valves, low on rocks, etc. The incubation period is about 60 days; they hatch as crawling young and very soon after emerging from the egg case are able to drill through the shells of other young mollusks.

ANOTHER LIVING FOSSIL

In NYSC NOTES 82.7, May, 1962 we reported a news release from the University of Texas on the discovery of "A colony of minute snails and their invertebrate neighbors, living near an abandoned New Mexico spa in the waters of a thermal stream....Dr. Austin Phelps, University of Texas zoologist,...found tiny snails, less than one-eighth of an inch in diameter, living in a continuous 112-degree (F) environment, and mites which live in 123-degree waters." Unfortunately the snail was not identified in the news release.

Now another small invertebrate, an isopod to 10mm, has been found to be surviving in thermal waters, in the same general section of New Mexico. Mr. Mike Hatch of the New Mexico Fish and Game Department, in an interview by Molly Ivins for the NEW YORK TIMES last winter, said of the isopods, "These little critters are real survivors. They developed when New Mexico was covered by a sea and have remained virtually unchanged through all the millions of years. As the sea receded, they made the change from saline to fresh water, living in the thermal springs. Man has wiped out their native habitat...There are about 2,500 of them left in this one place...the last colony of isopods." They have been proposed for the endangered species list.

We wonder: Are there also tiny snails in this second area of thermal waters, and are such snails also survivors from a prehistoric sea?

Contributed by Maud King

SOME NOTES ON CYPRAEA GUTTATA Gmelin, 1791

Robert Janowsky

There is perhaps no other Cypraea that evokes as much excitement from collectors and non-collectors alike as a vividly colored specimen of Cypraea guttata. The impact on the eye of a bright orange specimen with its spotted dorsum and red base gives this species a desirability far greater than its rareness. To me it is the most beautiful species of its family and it is the species which represents the keystone of our Cypraea collection.

Cypraea guttata has always been a rather rare shell. In 1888 Melvill was able to locate eight specimens and Burgess states (1970) that only a few have been added to that number. I would venture a guess that as of this date fewer than 100 specimens are known. They are deep-water shells. The minimum recorded depth for taking live specimens is 40 fathoms. Although improved techniques of collecting are making available many of the great rarities of the past, one still has to rank Cypraea guttata among the rarest of its family. The species has a rather widespread distribution. Its northernmost boundary seems to be in southern Japan; a few beachworn specimens have been collected in Queensland, Australia, marking its southern limit; specimens have been collected at New Hebrides Island and at New Britain, and at the Thailand/Burma border, to mark its eastern and western distributional range. In the past few years a great number of specimens have been collected in the central Philippines by the use of mesh nets set in very deep water. As late as 1970 no specimens were recorded from the Philippines which now is apparently the center of its population. The discovery of the species in the waters around Cebu and in the area off the coast of Burma constitute two extensions of range. Previously it was felt that the center of guttata's distributional range was in central Melanesia.

There are at least three distinct geomorphical variations of Cypraea guttata. One variation, Erosaria guttata azumai, was named by Schilder in 1960 to describe the specimens from Japanese waters. This form is generally lighter in color and more roundly inflated than the other forms. It is also somewhat lighter in weight. The spotting is large and sparse in this form and the "teeth" barely extend onto the margin.

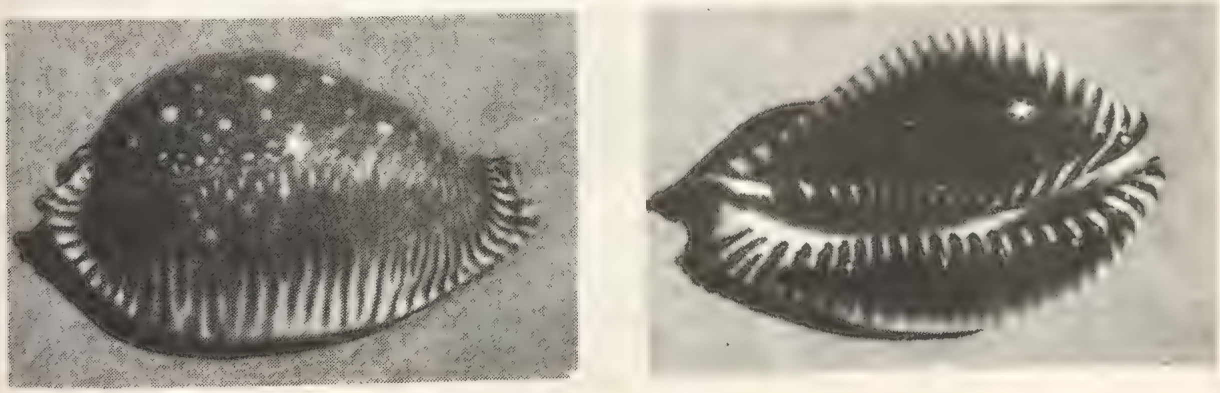
The second form is best illustrated by the specimens which have been collected in the Philippines. This apparently is the largest form. A few months ago a specimen was collected that measured more than 70mm which I believe is now the record size. The color of these specimens is somewhat darker than the azumai form. The canals are more strongly produced and the shell is somewhat more emarginate than in the Japanese form. The color on the base is darker (more red-brown than dark red) and the red lines emanating from the "teeth" on the base extend well onto the margins.

The third form is, in my opinion, the most beautiful. It is the form collected in the area off Burma by Thailand's fishing trawlers a few years ago. The enforcement by the Burmese government of its 200-mile territorial fishing rights has practically dried up the source of these shells since their boats are not equipped to trawl at the depths necessary to obtain these shells (100-300 meters). This form is, on the average, smaller than the two other forms. It is more deltoid in shape, thicker at the center and more extremely tapered toward the canals. The color is darker than it is in the other two forms and the spotting is more numerous and smaller than in the other forms. The dark "teeth" extend almost half way up the shell past the margins and onto the dorsum.

I am often asked which is the most beautiful or desirable form. My answer is that I have representatives of all three varieties in my collection.

Interestingly enough, the specimens found in Australia seem (although quite beachworn) to resemble most closely the specimens from Japan, the azumai form. There is a great deal of similarity between the Cypraea found in Japan and those found in Queensland, Australia, in deep water species that occur in both areas such as C. langfordi Kuroda, 1938, C. hirasei Roberts, 1913, C. hungerfordi Sowerby, 1888 and C. guttata Gmelin, 1791.

In addition to my own, there are several specimens of Cypraea guttata in collections of members of the New York Shell Club, and there is a very nice specimen in the study collection of the American Museum of Natural History.



Cypraea guttata Gmelin, 1791, 67mm specimen from the Philippines in the collection of Mr. J. Dunlap, Morrisville, Pennsylvania.

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NEW YORK SHELL CLUB NOTES No. 243 June-July-Aug. 1978 Page 1

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ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, JUNE 11th, 1978, at 2:00 p.m.

PROGRAM: ANNUAL ELECTIONS

THE PINK SANDS OF ELEUTHERA. JENSONIA. (Color slide presentations with taped accompaniment.) by Dorothy Jensen

CYPRAEA, GEMS OF WORLD SEAS (with color slides) by Richard Goldberg

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ANNUAL ELECTIONS

Nominating Committee Chairman Frank Nelson advises that the following slate will be presented for your approval at the June meeting: For president, William R. Walkwitz; for vice-president, Fred Cannon; for corresponding secretary, Marie Sussman; for treasurer, Mathilde Weingartner; for recording secretary, Milton Werner. Appointive posts will be discussed at the meeting.

FOR BEACHCOMBERS

For those of you who may be planning an early season trip to Orient Beach State Park, the best weekend tide we found listed was .01 on Saturday, June 17th, with the low tide occurring about 2:00 p.m. Eastern Daylight Saving time.

dr

AMU 1978

At this writing we have not received reservation forms for the American Malacological Union meeting to be held at the University of North Carolina campus at Wilmington July 16-21. However, the AMU Spring Newsletter contained this pertinent information: "A special low price of $15 per day per person is being offered to those who wish to stay on campus and live in the air-conditioned dormitories and eat in the university cafeterias. Rates are also being arranged for room without board....Various kinds of restaurants are clustered around the campus, and both budget and luxury motels may be found on a main highway within a mile of the campus (but) early reservations are recommended if you wish to stay in a motel....Wilmington is accessible by air (via Piedmont Airlines) as well as by bus, car, and boat."

North Carolina Shell Club members are hosting the meeting, with Paul Jennewein co-chairman of the local committee. His address: P.O. Box 394, Wrightsville Beach, North Carolina 28480.

Remember that you need not be a member of AMU to register for and attend the meeting. First-timers and family members are most welcome.

dr

WSM 1978

The Western Society of Malacologists will hold their annual meeting June 28th through July 1st at the University of Santa Clara, near San Jose, California. There will be papers, symposiums, work shops, displays, field trips. For information write to the president of WSM, Dr. Peter Neal D'Eliscu, Department of Biology, University of Santa Clara, Santa Clara, California 95053.

OS&S

JAX SHELL SHOW 1978

The Jacksonville Shell Club will hold its annual shell show on July 29th and 30th, 1978, at the Jacksonville Beach Auditorium (The Flag Pavilion). Out-of-town exhibitors are invited to participate. For information write to the show's chairman, Allan Walker, 1036 Mantees, Jacksonville, Florida 32205.

OS&S

ERRATA:

EATING CROW IN OLD BREVARD

A serious misunderstanding of the text is possible on the part of any reader of my report, SOME NOTES ON THE MOLLUSCAN FAUNA OF BREVARD COUNTY, FLORIDA, which appeared in the February (No. 239) and March (No. 240) issues of these NOTES.

The fact is that the area described in the first paragraph of the report (NYSC NOTES No. 239, p. 6) is not part of the Pamlico Terrace. It is part of the sandy plain deposited after the Pamlico Terrace was in place, as the land slowly rose.

Another error in the second part of the report (NYSC NOTES No. 240, p. 4) is called to the reader's attention through the courtesy of Dr. Harry Lee of Jacksonville, Florida who writes: "The avian parasite which develops in Melanoides tuberculatus is Philophthalmus -- a trematode -- not a trypanosome (Protozoa)." We are grateful for the correction.

Morris K. Jacobson

(We suggest that you enter the above corrections in your copies of NYSC NOTES as above.

- Ed.)

HIGHLIGHTS OF THE APRIL MEETING

President Veronica Johns wasted no time in getting to the first item of business, which was a call for agreement that there was no need, under the circumstances, for the discussion of business. Since the circumstances were the annual social meeting, there was no organized opposition. The meeting was held, as in past Aprils, at Dorothy Jensen's Broadway Dance Studio in Astoria, Queens.

The speaker for the day was Russell Jensen, curator of mollusks at the Delaware Museum of Natural History. He showed and described slides he had made during two collecting trips for the museum, in company with other curators of the staff and owner John DuPont. The two three-month expeditions were made in late 1976 and 1977, and both ranged widely through islands and atolls of the south Pacific. Among the stops were Tahiti, Moorea, Bora Bora, Rangiroa, New Caledonia, Amadee Island and the Isle of Pines. Russell's pictures included magnificent scenery, teeming collecting areas, and close-ups of living specimens, many of them Cypraea. A series made at the aquarium on New Caledonia included corals seen under ultra-violet light, and other sessile animals and plants, and nudibranchs and fish. Russ reported that six months before the group's visit to Rangiroa, a child had died of a sting by a textile cone, and that on New Caledonia the nickel-mining industry in washing its waste into the streams which flow into the sea, thus contaminating both streams and sea and killing life of all forms. At Isle of Pines he encountered for the first time an opisthobranch that ejects its internal shell when disturbed.

There were door prizes: a Voluta deshayesi won by Fred Cannon, and a molluscan jigsaw puzzle won by Betty Ann Shor. The raffle prize was a copy of Wagner and Abbott's "Standard Catalog of Shells," third edition, won by Rose Kurss.

The auction was enhanced by shells from the collection of Dr. Jane Schick, shells donated by Nick Katsaras, lovely original art works by Adele Reimann, two shell paintings created and donated by professional artist Al Scarpetti, and many other treasures donated by many other members. The conduct of the auction was enhanced by auctioneer Bill Old's knowledgeable comments on the material. Among noteworthy items were the facsimile of Vol. I of "Johnsonia," a used copy which sold for $10; two sought-after issues of "National Geographic" (July 1949 and March 1969) together for $11.50; Mitra glabra, $15; Murex artemis, $18; Conus janus, $12; C. cleri, $11; and C. cedo-nulli, $8. The top bid was $45, for a group of small Conus.

In-between intervals brought brisk trade to the sale table, handled by Lee and Frank Nelson. The final, leisurely "events" were the cocktail-or-punch hour, a buffet supper highlighted by superior homemade and donated cakes, and the animated socializing throughout.

Milton Werner, Recording Sec'y

WE WELCOME NEW MEMBERS Mr. & Mrs. Sudol, Colonial Road, Lake Telemark, Rockaway Twp., N.J. 07866. NOTE THESE NEW ADDRESSES FOR OLD FRIENDS:
Frank Hausman, c/o Okazaki, 160 W. 71st St., 8-T, New York, N.Y. 10023
Capt. & Mrs. Blaine Hunter, 549 Longdale Crescent, Chesapeake, Va. 23325
Esmond B. Martin, Box 270, 174 Post Road, Old Westbury, N.Y. 11568

BARBOZA DU BOCAGE MUSEUM DESTROYED BY FIRE

(The following letter was received by Dottie and Bob Janowsky and is printed here with their permission. - Ed.)

From: Ilídio A V Félix Alves
Praceta Eduardo Pereira Roque
lote 1, R/C, frente
S. Pedro do Estoril
Portugal.

Dear Bob and Dottie:

This letter was planned to be completely different but I am forced to rewrite it.

In fact last Friday to Saturday night a great fire destroyed practically all the Faculty of Sciences of Lisbon.

In order to prevent the destruction of all the neighbourhood the firemen had to protect the chemistry department and in the meanwhile the fire rose to such proportions in the Natural History Department that it was impossible to save it. From the once very good Barboza du Bocage Museum nothing was left but the walls. All the extraordinary collection of African birds is lost, along with the very good collection of fishes (with some unique specimens of extinct species, holotypes, etc.), the collection of reptiles, the shell collection, etc., etc., etc., with the books, papers, personal notes of people working there, even a PhD thesis almost complete was destroyed.

We had planned to begin with the study (and the second volume of "Seashells of Cape Verde Islands" in the case of Dr. Monteiro and Mr. Burnay) of Portuguese and West African malacological fauna. Everything was prepared and planned.

We have no Tryon, Reeve or Kiener, no Dunker, Dautzenberg, no Proceedings, Journals, no Abstracts, no files, nothing.

When I read for the first time (in "Johnsonia") about the destruction of the Chicago Museum in 1871, when all the papers and notes of Stimpson were lost, along with all the loaned material, shells and books, I thought that that might have been like something out of this world happening to him. We now experienced the same.

When I was writing all that, I began thinking that perhaps you could do us a favor (that is beyond possible future payment or adequate retribution) that is to find, or perhaps you have them already, the addresses of all the people that are working or have done work in malacology. Sometimes they have extra specimens of their papers. It would be very kind of you if you ask to those friends of yours, that you usually meet, or correspond with, if they would be so kind as to send to us duplicates of their papers on malacology, if they have any. The University is going to write to the Institutions all over the world but that will take a lot of time and sometimes the Institutions do not have available papers that the authors still have. The problem is to remember them all and to get their addresses. I would appreciate to be in touch With Abbott, Kohn, Nibbaken, Petuch, Clench, etc. etc. If someone kindly wishes to send papers on other subjects I will forward them to the right persons.

It is obvious that I can't pay for all this. The money we will have will pay the equipment, perhaps, but not all this. I can add that, as a retribution, I will try to send to everybody our future papers, but I am afraid that that will take some time.

At the moment the Natural History Department has only four blackened walls.

I can't end this matter without saying that we were expecting something like this for years. We had asked the experts to examine the building and to suggest what should be done to prevent a fire like this.

The report of the firemen, made a few years ago, said that that building was by far the most dangerous of Lisbon. Devices for the detection of fire were needed, and those things that are in all streets to connect the hoses (I can't find in three dictionaries the name for it); the gates were too narrow so that the more powerful fire engines couldn't attack a fire from the sides of the building (that is surrounded by a small park and other buildings of the University). The cost of the system was more or less the equivalent of US $100,000. We only succeeded to have from the government some fire extinguishers and those things to connect the hoses were just put there but were not properly connected and were useless. We had demanded to the Government to order an enquiry in order to establish the responsibility for the slowness of the works (this, before the fire). They preferred to use the money for other more "political" benefits. Now it will cost several thousands more to put all back to work.

I am sending to you reprints of the latest paper by Trovão. I tried to obtain one more reprint for that friend of yours whom you once asked me a reprint for. As soon as I have another I will send it to you. It has been quite difficult for me to obtain it because usually when I go to C.P.A.S. the malacological department is closed and Trovão is sometimes hard to find.

I am going to include with the reprints some photographs of the Faculty of Sciences.

With my best regards, in the hope to keep hearing from you,

Yours sincerely,
Ilídio

S. Pedro do Estoril, 21st March 1978

BRAZILIAN MALACOLOGICAL SECTOR CELEBRATES 10th ANNIVERSARY

The Malacological Section of the Federal University of Juiz de Fora in Minas Gerais State, Brazil, is celebrating the 10th anniversary of its founding. The Section is headed by Dr. Maury Pinto de Oliveira who founded it and whose private shell collection forms the center of the Section's collection.

In the ten years since its founding, much important work has been accomplished, including several important publications in the series MALACOLOGICAL COMMUNICATIONS. The Section also completed a survey of the disease-bearing planorbid snails (Schistosoma Mansoni Vector) in 21 counties of Minas Gerais. A revised check list of the snails of Estado de Espirito Santo with 343 species was also prepared. As part of the anniversary celebration, an addenda to the list of land pulmonate snails will be presented containing many species not previously reported from Minas Gerais.

The Section now has a large collection of shells, a fine library, and also 10,000 shell specimens for exchange. The address is: Sector de Malacologia, Universidade Federal de Juiz de Fora, 36100 Juiz de Fora, Minas Gerais, Brazil.

mkj

AN UNUSUAL SHELL EXCHANGE

Sam Freed

Some years ago I had the opportunity to exchange shells with the Smithsonian Institution, the world's largest repository of mollusks. This all came about due to the encouragement of our own Karl Jacobson.

For a number of years I had been collecting land and fresh water shells in New Jersey, concentrating mainly in Union County where I resided with my family. A summary of shells collected appeared in "The Nautilus," Vol. 70, No. 4, April, 1957 titled "Land and Fresh Water Mollusks of Union County, N.J." This was the first survey of mollusks for the county.

I wrote to Dr. Harald A. Rehder of the Smithsonian Institution in Washington, D.C. inquiring whether he would like to exchange land and fresh water shells from North Jersey for marine shells of the west coast. The answer was that since the Smithsonian had very few shells from northern New Jersey an exchange was most welcome.

A package of 20 species, 110 shells was mailed to Dr. Rehder. Several years later I received a most interesting lot of shells neatly packed in round, colored, miniature hat boxes with complete scientific data. Included were 28 species, 364 specimens. Among this lot were 31 shells of six paratypes. (A paratype is a specimen, not the holotype, but of the original series on which a species is based.)

The following paratypes are now in my collection:

Neptunea _pribiloffensis_ Dall, 1919 Proc. U.S.N.M., Vol. 56, p. 323, West of Pribiloff Id., Bering Sea, Alaska, "Albatross," Sta. 3554, 62 fms., mud, 39.5°F.

Lischkeia _bairdi_ Dall, Off San Clemente Id., California, "Albatross," Sta. 2839, 414 fms.

Tindaria _brunnea_ Dall, 1916 Proc. U.S.N.M., Vol. 52, No. 2183, p.401, "Albatross," Sta. 3604, Midway between St. Paul and Umnak Id., Bering Sea, 1401 fms., 35°F.

Limopsis _diegensis_ Dall, 1908 Bull. M.C.Z., Vol. 43, p. 395, Off San Diego, California, "Albatross," Sta. 2923, 822 fms., mud, 39°F.

Yoldia _montereyensis_ Dall, 1893 Nautilus, Vol. 7, p. 29, Monterey Bay, California, "Albatross," Sta. 3202, 382 fms., 41°F.

Yoldia _scissurata_ Dall, 1897 Nat. Hist. Soc. Brit. Col., No. 2, p. 9 Monterey Bay, California, "Albatross," Sta. 3133, 37 fms.

THESE TOO ARE MOLLUSKS

Morris K. Jacobson

Parasitic forms are rare in the phylum Mollusca but some do exist. They range from the shell-bearing, completely recognizable ectoparasites (= outside parasites) like *Odostomia*, *Pyramidella*, *Eulimia* and so on to completely degenerate endoparasites (= inside parasites) like *Entoconcha*, parasitic on a sea cucumber, which consists only of a wormlike tube with a siphon opening through the host's skin and a small proboscis. In between are forms like *Gasterosiphon* (also endoparasitic in a sea cucumber) which still has a recognizably molluscan viscera.

Most of the parasites are included in parasitic family groups: *Entoconcha* in Entoconchidae, *Gasterosiphon* in Stiliferidae, *Eulimia* in *Eulimidae*, *Thyca* in Capulidae and so on. But even in the "straight" family Lucinidae there are some members that are more or less parasitic on echinoderms -- starfish, sea urchins, holothurians (= sea cucumbers).

The accompanying pictures are figures of some of these mollusks:

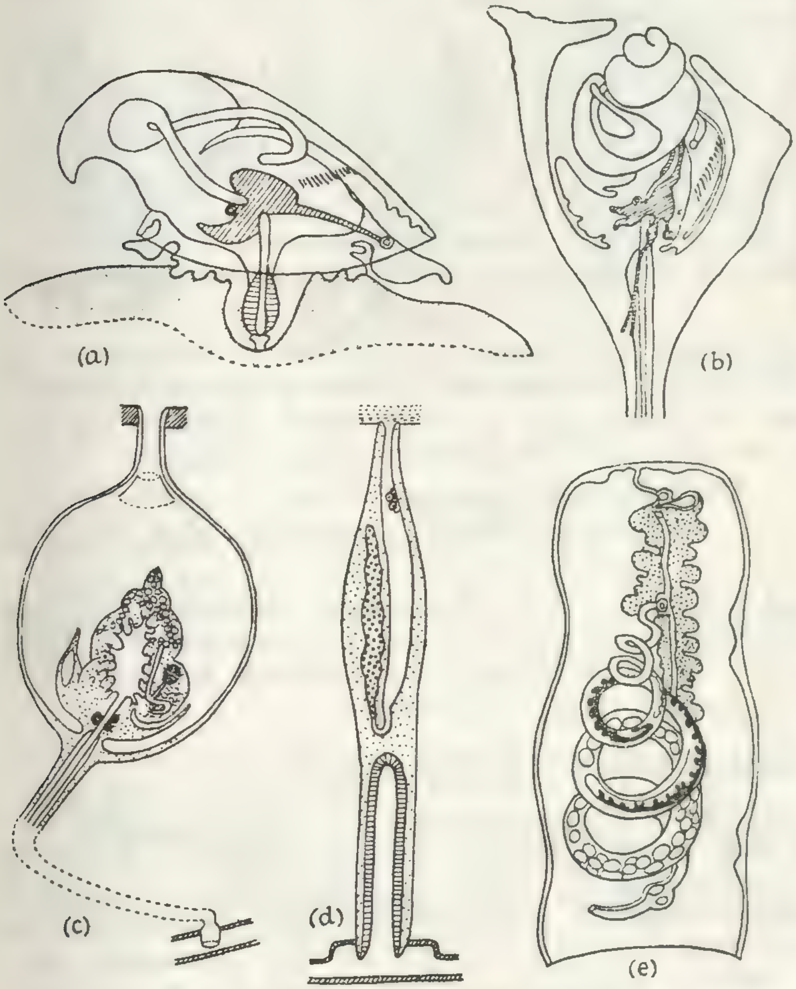


FIG. 14.10. PARASITISM IN GASTROPODS

(a) *Thyca entoconcha* parasitic on a starfish.

(b) *Stilifer linckiae* parasitic in starfish.

(c) *Gasterosiphon deimatus* (*Stiliferidae*) parasitic in holothurians.

(d) *Entoconcha mirabilis* parasitic in holothurians.

(e) *Entoconcha mirabilis* in its holothurian host, *Synapta*.

(a) and (b) look something like mollusks; (c) is molluscan only in its internal anatomy; (d) and (e) are two views of an entirely unmolluscklike creature. It's important to remember that these forms are distinctly molluscan as larvae, going through trochophore and veliger stages. It is only as they mature that they assume the degenerate parasitic shape.

References and illustrations are from THE BIOLOGY OF MARINE ANIMALS, J. A. Colin Nicol, 1960, New York. (Fig. 14.10. p. 597.)

TRAVELS OF THE SCORCHED MUSSEL
BRACHIDONTES EXUSTUS (Linné, 1758)

In NYSC NOTES No. 242, pp. 4-5 we wrote of Urosalpinx cinerea and how it was transported to England where it became established in the areas of Kent and Essex.

Here is word of another traveler as reported in THE CONCHOLOGISTS' NEWSLETTER of September 1977, no. 62, p. 36. The article is here reprinted in its entirety:

GENERAL NOTES

In recent editions of Conchologists' Newsletter (Nos. 58 and 61) Margaret Brockbank has drawn attention to an interesting find in the Outer Hebrides. While walking on the beach at North Bay, Ardivachar, she noticed a melon stranded on the shore. It was encrusted with Balanus balanus and the young of Ostrea edulis, while some Lepas anatifera were showing through a hole in the side. Inside the melon she found 26 specimens of an unusual mussel later identified as Brachyodontes exustus. These mussels are natives of the east coast of the U.S.A. and South America, from North Carolina to Uruguay and the West Indies. B. exustus likes slightly brackish waters, adhering to rocks and pilings.

Now B. exustus has turned up in Irish waters. Mr. Michael Long, Dingle, County Kerry, who is Area Recorder for Fastnet (Area 37) found nine specimens attached to a metal buoy which was washed up on a beach just east of Dingle Harbour on 17th March 1977. The specimens, which ranged in size between 13.0 and 18.2mm, were identified by Mrs. Nora F. McMillen of Merseyside County Museums, Liverpool. Also attached to the buoy were a few Lepas anatifera and some oyster spat.

B. exustus has not previously been recorded from Irish waters. It seems likely that the buoy to which these molluscs were attached travelled from the east coast of America or the West Indies on the north Atlantic drift to the shores of Ireland.

Colm O'Riordan
National Museum of Ireland, Dublin

(Editor's note: Ostrea edulis Linné is a European oyster; Balanus balanus Linné, the Northern Ridged Barnacle, is circumboreal; Lepas anatifera Linné, one of the Goose Barnacles, is rather cosmopolitan.)

MALACOLOGICAL ARTICLE OF THE MONTH

The gastropods Acmaea (Collisella) limatula and A. (Notoacmaea) scutum respond to water flowing over the mollusc-predatory starfish, Pisaster ochraceus, Pisaster giganteus, Pycnopodia helianthoides and Leptastrias aequalis by rapidly moving up a submerged, vertical surface. The closer the limpets are to the starfish the greater is their upward displacement. The limpets respond weakly or not at all to less molluscan-predatory starfish. Oecologia 23:83-94; April 1976.

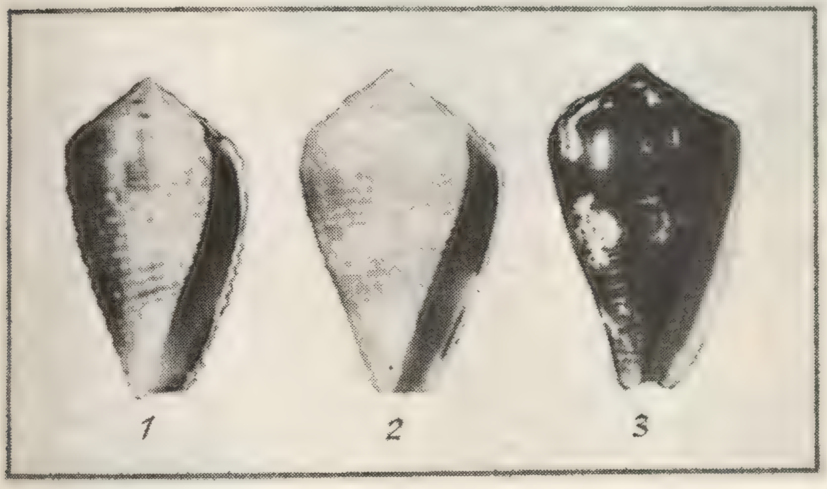
Henry D. Russell

TWO UNUSUAL FORMS OF CONUS CATUS Hwass, 1792

Robert Janowsky

The three specimens illustrated represent two interesting forms of Conus catus Hwass 1792. This species has a very wide distribution throughout the Indo-Pacific; it is a common shell and one that is quite variable in appearance.

Two rather distinct forms of Conus catus were named by Dautzenberg in 1937. Figures 1 and 2 represent the form called rubrapapillosa. This form is distinguished by its lighter color and its granular appearance. In figure 1 the spiral cords and pustules are more strongly produced. The color of this specimen is tan with red/brown markings. The shell in figure 2 is not as heavily corded or pustulose and its color is lighter, with tones of orange and gold predominating. These two specimens were collected in Takapoto, the Tuamotos Archipelago, French Polynesia.



Conus catus Hwass, 1792
Specimens 32mm±1 in the collection of B. & P. Pipher, Takamah, Neb.
Photograph by Robert Janowsky.

Figure 3 shows the form fusco-olivaceus which can be distinguished by its very dark purple/brown to almost black color. It is almost smooth in contrast to the rubrapapillosa form. This specimen was collected in the Marquesas Islands, French Polynesia.

While these form names have no real taxonomic status (they are not species), they are nonetheless convenient "handles" to distinguish varietal types of this interesting species.

RECORD PRICE FOR A SEASHELL

A 78mm live-collected specimen of Conus thomae Gmelin, 1791 recently changed hands for a price of $5,500.00. This is probably the first live-collected specimen of this rare species seen in the past 150 years. The specimen was trawled by a fishing trawler off Thailand near the Burmese border. It is believed that this is the highest price ever paid for a single specimen of any shell in the United States.

Bob Janowsky

HAVE A GREAT SUMMER
SEE YOU IN SEPTEMBER!

NEW YORK SHELL CLUB
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The NEW YORK SHELL CLUB meets on the second Sunday of each month, September through June, in

ROOM ~~319~~ 426, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, SEPTEMBER 10th, at 2:00 p.m.

PROGRAM: SEASHELLS AND SEASHORES, a color slide presentation by George Raeihle

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ANNUAL ELECTIONS

At our June meeting the slate proposed by the nominating committee was approved as presented. We welcome our officers for the coming year: President William R. Walkwitz, Vice-president Fred Cannon, Corresponding Secretary Marie Sussman, Recording Secretary Milton Werner, and Treasurer Mathilde Weingartner. Our directors for the new season are, in alphabetical order, Dorothy Janowsky, Nick Katsaras, William E. Old and Harold Sussman.

Our sincere thanks to retiring officers President Veronica P. Johns and Corresponding Secretary Monique Caubere.

FOR YOUR DISPLAY

The club has been granted the use of a locked display case. Anyone who wishes to display shells at a club meeting is free to use this case. Please contact Vice-president Fred Cannon to arrange for use of the case.

WEO

FRANK ABBOTTSMITH

On June 18th, 1978, Frank Abbottsmith of Perth, Australia, passed away in his sleep after a long illness. Typically, Frank didn't let his poor state of health interfere with this year's world tour plans which included a stop in New York. Unfortunately he had to rush home to Perth from London in May when he found it impossible to continue. He was a government worker whose retirement project was to travel with his library of color slides, visiting friends and associates and sharing his knowledge; he travelled around the world two and a half times.

Shells were not Frank's first venture into collecting; at an early age he became known as one of the foremost authorities on Australian coinage. When he turned his attention to shell collecting, Frank began to assemble a collection of the Volutes native to Australia. Characteristically, he analyzed them in terms of the regularly occurring color and pattern forms related to the geographical distribution of species. The results of his observations were published by him in MULTIFORM AUSTRALIAN VOLUTES, a listing of all the specimens he had examined over a period of years. It was this book which introduced him and his work to collectors all over the world. In order to record specimens not in his own extensive collection Frank developed a photographic technique which resulted in the superb shell slides which many of us enjoyed during his visits here. NYSC members well remember his visit in September, 1974 when he gave a specially arranged talk and slide show for them at the Broadway Dance Studio.

Frank Abbottsmith was a perfect example of what an amateur in any field can do, to help the professional with his keen and accurate observations and to inspire, by his example, other amateurs.

Frank J. Nelson

TONI WOOD

We are sorry to learn of the recent death of Toni Wood, formerly a member of the New York Shell Club, and well known to shellers who visit the Florida Keys. She was a resident of Big Pine Key where she also had "botel" accommodations for rental. Our sympathy is extended to her husband, Dan.

HELEN DENNY

We regret to announce the death of Mrs. James Denny at the age of 72, on March 12, 1978, on Sanibel Island, Florida, where she owned and operated the Jewel Box shell shop on Sanibel. She was the founder of the Southwest Florida Conchologist Society and was a member of several other shell clubs (including the New York Shell Club which she joined in 1964). Helen Denny was renowned for her shell art.

From: NAUTILUS 92(3)107

HIGHLIGHTS OF THE MAY MEETING

After a brief business session, the meeting moved itself from Room 319 to the fifth floor of the Museum, where the offices and workrooms are located. The program for the day was in the hands of Dr. William K. Emerson, Curator of Mollusks in the Department of Invertebrates, and William E. Old, Scientific Assistant. Leading separate groups, they conducted a tour of the facilities of the mollusk department, and provided a selective look at the American Museum's shell collection.

Dr. Emerson and Bill Old described the equipment of the department, and the procedures through which it acquires, processes, catalogs and stores specimens. They had taken the trouble to arrange for display trays of shells -- the subjects of current projects -- along with the literature, maps and other items of equipment they were using to develop, from the specimens, information of scientific value.

President Veronica Johns, in borrowing the idea of the tour from the Long Island Shell Club, felt that for any member who had never been behind the scenes in a museum, this introduction would be a broadening experience of both interest and value. Amateur conchologists make many contributions to the progress of professional investigation, and she hoped, in arranging the tour, that newly-informed members will become more interested in curating their collections for eventual scientific usefulness, and be better able to recognize opportunities to contribute to the Museum's work with mollusks.

Our guides invited their audiences to name families of genera of special interest to them, and pulled out many a drawer from the department's storage "cans" to provide a close look at the Museum's collections, and arrangement, of the requested shells. The difference between the old and later labels made clear today's emphasis on data -- not only date and locality, but any additional observations that give indications as to how a given species goes about its life.

Milton Werner, Recording Sec'y.

COME TO THE KEYS!

Margaret Teskey

Box 273, Big Pine Key, Florida 33043

I have accompanied or directed umpteen lots of fellow shellers to one of my favorite sites, the ancient rock quarry on Crawl Key, some four miles north of Marathon and bordering U.S. 1. This saline hole was dug for railroad fill and ballast in the early days of the century and will in the near or distant future be placed off limits, judging from the amount of development going on around it.

Its underwater ledges are crowded with stones rolled from above, and both stones and ledges are riddled with burrows, the reason for this report. For said burrows are made by a mussel all shell books list as "rare" or "unusual" - Botula fusca Gmelin, 1791.

This date-shaped bivalve bears a silky brown periostracum that does not flake off as does that of other mussels; until disturbed, the animal extrudes a frilly brown mantle. And finally, while all of the books list the size as one-half to three-quarters of an inch, specimens from Crawl Key reach the giant size of one and three-quarters inches! Seldom do I return without one or more boulders (Pleistocene coral, usually) of lugging size to break in my bench vise; always I am rewarded with two to a dozen fine specimens.

So come to the Keys, fellow shellers, and stop to snorkel a spell in Crawl Key Quarry. Two other species abounding there should not be overlooked: Petricola lapicida Gmelin, 1791 which also bores in the quarry walls, though usually at a higher level and not in such numbers as does Botula, and Pseudochama radians Lamarck, 1819, which you'll note as bumps beneath your feet, needing to be kicked or hacked loose. Not pretty, but a prize.

CONCHOLOGISTS OF AMERICA 1978 CONVENTION

The Conchologists of America is a national organization founded in 1972, oriented to the shell collector interested in the beauty of shells and the scientific aspects of shell collecting and conservation. Activities are primarily directed towards those people interested in shell collecting as a hobby and the membership includes scientists, advanced amateurs, beginning shell collectors and shell dealers.

Each year several issues of "The C.O.A. Bulletin" are sent to our members. These bulletins contain book reviews, informative articles on various aspects of our hobby, reports of collecting trips, tips on cleaning or cataloging shells, etc. Membership in the C.O.A. is a real bargain at $3.00 per year.

Our one meeting per year is a convention, held in a different locality each year. 1978 marks the sixth anniversary of the founding of the Conchologists of America and the annual convention this year will be held at the Island Inn, Westbury, Long Island, New York, Wednesday, September 27th through Saturday, September 30th. This year's convention will be hosted by the Long Island Shell Club and it promises to be "the best ever."

Registration will take place Wednesday morning and the convention will officially start Wednesday afternoon. Wednesday evening there will be a "Get Acquainted" cocktail party hosted by the Long Island Shell Club.

Weather permitting, a collecting field trip to Orient Beach State Park, on the extreme northeastern tip of Long Island, 125 miles out into the Atlantic Ocean, will be held on Thursday. For Thursday evening, the Long Island Shell Club has planned a shell exhibit followed by a color film on the Great Barrier Reef.

On Friday a second field trip is scheduled: In the morning, a visit to the American Museum of Natural History and its famous Hall of Mollusks. The afternoon will be spent at the Coney Island Aquarium where we hope to see the live Chambered Nautilus. Friday evening will feature our annual shell auction. Shell dealers throughout the world have already been contacted for specimen contributions, and your specimen contributions will also be greatly appreciated.

Saturday morning the presentations will continue and the business meeting will be held. The convention will conclude with a gala banquet Saturday night and we are pleased to report that Dr. R. Tucker Abbott has graciously consented to be the guest speaker.

We are purposely concluding the convention Saturday evening in order to give out of state visitors the opportunity to do some Sunday sight-seeing in New York City.

Throughout the convention, and due to the efforts of member R. Wayne Stevens, we will be giving away, as door prizes, dozens of brand new shell books donated to us by their publishers. Remember, however, you have to be there to be lucky.

For more information, contact the Convention Chairman, Martin Lerner, 64 Thompson Avenue, Oceanside, New York 11572.

M. Lerner

PARASITIC CRABS AND MOLLUSKS

Jack B. Pearce
Sandy Hook Laboratory
Northeast Fisheries Center, National Marine Fishery Service
Highlands, New Jersey 07732

Tiny crabs, referred to as commensal or pea crabs, are found living inside a wide range of hosts. These crabs belong to the family Pinnotheridae. In the past the crabs have been regarded as being commensals in terms of their relation to the host. The first intensive study done on these crabs was conducted by Christensen and McDermott (1958) who described the life history and biology of the oyster crab, Pinnotheres ostreum. This species is found in oysters collected along the eastern seaboard; many connoisseurs of oysters consider the tiny crabs to be an extra delicacy that can be found when eating oysters.

These crabs are now regarded as being parasitic. They cause definite harm to their bivalve hosts. In the process of moving about over the gills to collect food, damage is caused to the gill tissues. This damage has been shown (Haven, 1958) to affect the actual biomass or weight of tissues. The body mass of mussels and oysters which contain crabs often weigh less than those which are free of the parasites. In some cases damage can even be caused to the host's shells. I have found that mussels which support a parasitic crab are often less resistant to environmental stress and when there is a shortage of food the presence of the crab can result in starvation of the host bivalve, as well as the crab itself; the host simply cannot feed intensively enough to provide nutrients to both itself and the parasite.

In recent studies done in the heavily polluted New York Bight and adjacent embayments, such as Raritan Bay, Jamaica Bay, and Newark Bay, I have noted that mussels are usually free of parasitic crabs. It therefore appears that the presence or absence of crabs might provide an index as to water quality in our coastal, oceanic and estuarine waters. Because of the difficulty of collecting large numbers of crabs over a wide area, I am asking that conchologists and shell collectors interested in the environmental quality of marine waters notify me when they collect living mussels that are found to contain parasitic crabs. Generally only one adult crab will be found in each mussel and it can usually be spotted easily because of its movement. As a knife or razor blade is passed through the opening between the two valves and the valves are separated or laid flat, the movement of the crab can be detected. It would be greatly appreciated if, when individuals are in the field and can collect 20 to 50 mussels at a time, these could be gently opened and observed for the presence of the crab. Information can be sent to me at the Sandy Hook Laboratory, Highlands, New Jersey 07732. I am interested in the presence of crabs in mussels collected anywhere in the New York Metropolitan area, and extending East through Long Island Sound and along the south side of Long Island to Montauk Point and Narragansett Bay. I am also interested in the presence of crabs in mussels collected from the New York area south to Lewes, Delaware. If shell collectors have available to them small vials, any crabs that might be found inside mussels could be placed individually in the vials which could be filled with plain rubbing or isopropyl alcohol. It would, again, be of particular value if each crab could be placed individually in a vial along with a note indicating the length of the host mussel as well as the date and exact location of its collection. Such information would be extremely valuable in our continuous studies of environmental pollution and deteriorating water quality in coastal zones and estuaries.

I would be glad to furnish copies of papers on these crabs as well as more details as to how collections should be made, if individuals would write to me at the foregoing address.

LIFE HISTORY OF SOME PINNOTHERIDAE

The life history of these crabs is complicated. The mussel crab, Pinnotheres maculatus, was studied on the East Coast. In the early 1960's Pearce (1977a.b) studied the ecology of several species of pea crab living on the West Coast. The East Coast mussel crab, and Fabia subquadrata, the West Coast mussel crab, were found to have very similar life histories. Both species hatch from eggs carried by mother crabs located inside mussels such as Modiolus modiolus and Mytilus edulis, which are common in certain portions of the seas off the East and West Coasts. When an egg hatches, a small crab larvae, called a zoea, escapes the host mussel and swims into the water column. The tiny larvae are attracted to light and swim to the surface where they pass through several developmental stages, collectively called instars. The last instar is called a megalopa; this larval instar looks very much like the tiny adult crab. At the megalopa stage a drastic change occurs in the physiology and morphology of the crab larvae and the tiny crab leaves the water column and settles to the bottom where it finds its way into a host mussel or other bivalve species.

After reaching the bottom, and finding an appropriate host, the tiny crab continues to develop through a number of true crab instars. These instars are quite small, less than a millimeter in diameter at the beginning and eventually reaching 2 to 3mm in carapace width. The tiny crabs have slender walking legs which allow them to move about inside the mussel. The exoskeleton, or shell, is quite soft, unlike free living crabs which have a well-calcified exoskeleton. The crabs feed on food taken in by the host mussel. As foodstuffs are collected on the gills of the host bivalve, the crab delicately picks up food materials which are entrained in mucous secreted by the bivalve.

As previously mentioned, upon entering the host the tiny true crab passes through several moults, each of which results in an instar which is slightly larger in size. Eventually, an instar is characterized by an exoskeleton which is hardened much like that of free living crabs. Also, the walking legs, instead of being soft and cylindrical, are flattened and have long setae, or hairs, along their posterior margins. This particular instar (called the Stage 1 crab) again leaves its host bivalve, usually a mussel, and swims to the water's surface; both males and females leave their host mussels. Sometimes hundreds of these small crabs can be seen swimming in the water of shallow estuaries and embayments. They can easily be attracted to night lights which are placed in the water. During this period the male crabs copulate and fertilize the female crabs. The females are fertilized when small packets of sperm are passed by the male to the female and inserted in tiny containers (called seminal receptacles) on the ventral or bottom side of the female. Upon receiving the sperm in the seminal receptacles, the female leaves the water and again returns to the benthic environment. Once more, the female crab seeks out a mussel host. The tiny crab, which may now measure 5mm in carapace width, enters a host mussel and again moults into a new instar.

The instar following the hard, swimming instar is characterized again by having a soft exoskeleton and tiny cylindrical appendages. This instar passes through several other moults, each resulting in a crab similar in appearance to the previous instar but somewhat larger. Also, during this period the abdomen increases greatly in width. After four such moults the final, definite adult female crab is attained. At this time the female crab produces a large number of eggs, perhaps over a thousand. These eggs are fertilized as they are extruded from the female and pass by the openings to the seminal receptacles. Thus sperm that were transferred to the female during the swimming or swarming stage of the hard instar fertilize eggs that are extruded from her ovaries weeks or months after fertilization has occurred.

It is thought that the swarming males which were found in the open water continue to seek out swarming female crabs to fertilize them. Because the males remain in the open waters much longer they are more subject to predation. Therefore, following the swarming activities of both sexes the numbers of males are greatly reduced; very few males are to be found in host mussels following swarming.

The cycle is thus completed when the eggs of the adult female hatch and once again zoae leaves the host mussel for open water. It can be seen from the foregoing that this crab has an interesting life history in which, at two distinct periods, the instars are to be found in the water column: one when the larvae leave the host and the second period during the swarming activities.

It was earlier thought that the male crabs must swim or crawl about the bottom seeking out female crabs within host mussels. From the research I have done, it would appear that, in fact, this does not happen but rather both sexes engage in swarming activities when fertilization occurs. It is now known that this unique life history is characteristic of the West Coast mussel crab, Fabia subquadrata, and the East Coast mussel crab Pinnotheres maculatus. It is also believed that the oyster crab, P. ostreum, probably has a very similar life history.

Pinnotherid crabs from the West Coast of North America include, perhaps, one dozen species. One genus, Pinnixa, has several species. The life history of these crabs differs considerably from the life history of crabs belonging to the genera Fabia and Pinnotheres. Crabs belonging to the genus Pinnixa are found with a wide range of hosts including several bivalve molluscs and certain gastropods as well as several polychaete worms. Work done with the West Coast mussel crab indicates that it is also found with Mytilus edulis as well as M. californianus. The East Coast mussel crab, Pinnotheres maculatus, is principally found with the mussel, M. edulis. This crab can, however, be found in other hosts, particularly in the southern part of its range. Additional hosts include the pen shells, Atrina species, and scallops.

HIGHLIGHTS OF THE AMU MEETING

The best part of arriving for an AMU meeting is to see old friends for the first time in a year or two or three or five. It was pouring rain Sunday, July 16 as we landed in Wilmington, but, unexpectedly, Ginnie Jennewein was there at the airport to greet us and take us to the UNC campus. This was only our first sample of the hospitality and consideration of our hosts of the North Carolina Shell Club. They hosted approximately 110 delegates attending from points as far away as Brazil, California, and Canada.

On Monday morning a council of systematic malacologists was held, attended mostly by professionals. As the meeting did not formally convene until 2:00 p.m., others took the opportunity that morning to do a few hours sight-seeing or go off on their own searching for land or freshwater mollusks.

The North Carolina Shell Club had prepared a splendid exhibit of the shells of North Carolina, displayed in several cases in the foyer of King Hall where the auditorium was located. Most of us marveled that these beautiful specimens were taken in North Carolina waters as so many species (Cowry, Murex, Pen Shells, Angel Wings, Tulip, Junonia, etc.) we associate only with Florida collecting. However, one must remember that the Gulf Stream follows the coast northward to Cape Hatteras before it sweeps off across the ocean. These "Florida species" live offshore in waters influenced by the Stream (See: AMU ANN. REP. 1967, p.23, NOTES ON SOME MOLLUSCA OFF THE COAST OF NORTH CAROLINA (Abstract), Porter and Jenner. Also NYSC NOTES 135.2).

The papers presented at the formal sessions were varied and interesting with topics ranging through anatomy and behaviour to structure and species determination in land, freshwater, and marine mollusks. Among the presentations: J. P. E. Morrison described the triangular shape of the Unionidae glochidia which are shed in mucus strings and clamp on the exterior of fishes for their metamorphosis, while the short-hinged glochidia of the Amblemidae are parasitic on the gills of fishes...Ruth Turner and Elaine Hoagland continue to monitor and advise the directors of the nuclear power plant at Oyster Creek, New Jersey, where the effects of raised salinity and warm effluent from the plant has been to cause an outbreak of shipworms resulting in much destruction...Jerry Harasewych reported one segment of his work with the Busycon: examining radulae of four species (twelve lots) he found the number of cusps per rachidian to be constant in the subgenus Busycotypus, but variable in the subgenus Busycon sometimes according to the age of the animal, sometimes with particul populations...William E. Old reported that of the dozen species of Chitons occurring in the Galapagos Islands, 50% are endemic to the archipelago; his discussion was illustrated with color slides... David Stansbery and Dr. Clench co-authored a report on the Mollusks of Lake Waccamaw of North Carolina, where were found at least three species of gastropods and ten species of naiads. Several of these species appear to be found only in Lake Waccamaw. ... There were papers on Littorinidae, Nudibranchs, Corbicula, Lyonsia, Slugs, Fingernail Clams and other mollusks -- their anatomy, behaviour, reproduction.

On Shell Club Night the extra added attraction was the showing of slides by Mathilde Weingartner of her trip to Russia. On Wednesday Gilbert W. Bane, Professor of Marine Sciences at UNC, gave us a lively evening with a special, illustrated program: SHARKS AND RAYS:

JAWS TOO! He had cooked shark for us to sample, and among his exhibits were toothful shark jaws and his own shoes made of the extremely tough hide of the tiger shark.

The banquet Thursday evening was delicious, the atmosphere jovial. There were door prizes galore. Dr. Clench was the speaker and showed pictures and films of early AMU years, especially 1941 in Maine with the lad R. T. Abbott and the young scientists Clench, Rehder, van der Schalie and others. At the end of the evening the gavel was passed from retiring president Carol B. Stein to the new president, William E. Old. Our congratulations to him in his new post; let us all give him full support. He will preside over next year's meeting which will be a joint one with the Western Society of Malacologists. It will be hosted by Texas Shell Clubs and held at Corpus Christi.

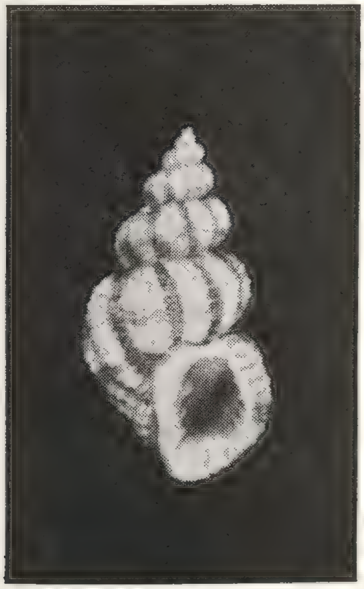
For Friday our hosts had arranged a number of field trips for us to choose from according to our interest: land, freshwater, marine, fossil, or a trip to the Marine Resources Center. This was a quiet way of reminding us that North Carolina has it all -- a unique, rich and varied fauna. We'd like to visit it again.

Dorothy Raeihle

SCALPTIA MERCADOI Old 1968

Robert Janowsky

I have recently received from one of my Philippine suppliers a specimen of a remarkable cancellarid which has proven to be Scalptia mercadoi Old 1968. The illustrated specimen is 32mm in height and was collected in mesh nets in deep water off Punta Engano, Cebu, in the Philippines. This attractive species is certainly one of the most striking of all the cancellarids, with its broad ribs, its contrasting light and dark brown colors and its intricate sculpture.



Scalptia mercadoi Old

Collection of R. Prince, Portland, Oregon. Photograph by R. Janowsky

Very few specimens of this shell have been seen since Mr. Old described it nearly ten years ago. The type and one of the paratypes were known to have come from 175 and 120 fathoms depths, and I believe that the illustrated specimen also came from a depth greater than 100 fathoms -- a factor which must certainly account in part for its rarity. The original description appears in "The Veliger," Vol. 10, No. 3, January 1968, pp. 286-289 and is recommended to those interested in a thorough description and discussion of this species.

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The NEW YORK SHELL CLUB meets on the second Sunday of each month, September through June, in

ROOM 426, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, OCTOBER 8, 1978, at 2:00 p.m.

PROGRAM: Mr. Peter Dance:

"Hugh Cuming; Prince of Shell Collectors"

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WE MEET IN ROOM 426

Please notice that the New York Shell Club has been assigned Room 426 (instead of 319) for the 1978-79 season. This room is identical to 319 and is located just above it.

INTERNATIONAL EXHIBIT

The American Museum of Natural History was among those to exhibit shells typical of this country at the International Malacology Exhibition held during July and August at Cupra Marittima, on the Adriatic coast of Italy. The Department of Mollusks chose, generally, marine species of economic importance (*Mercenaria*, *Busycon*, etc.) to send for exhibit. Ohio State's Museum of Zoology contributed some freshwater species, and Texas and other areas also contributed.

TO START REBUILDING A LIBRARY

In NYSC NOTES No. 243, pp. 4,5, we printed a letter describing the fire last March at the Barboza du Bocage Museum of Lisbon, Portugal, with the complete loss of the Natural History Section with its molluscan collections and library. The author of the letter wrote of the desolation of no literature. NAUTILUS of July, 1978 also notes the disaster and the need for gifts of malacological literature with the plea, "Please help their rise from the ashes."

It is suggested that at this time contributions be confined to malacological literature including reprints. Such library materials may be sent to the attention of: Ilidio A V Felix Alves, Praceta Eduardo Pereira Roque, lote 1, R/C, frente, Sao Pedro do Estoril, Portugal.

WHO LIKES MOLLUSKS?

Morris K. Jacobson

Not only shell collectors, shore dinner diners, and interior decorators. Below some other molluscophiles less well known.

Serpulids (worms which build long calcareous tubes), barnacles, and other sedentary species use molluscan shells, alive and dead, to be sedentary on. Hermit crabs (Paguridae) are well-known molluscophiles -- or rather "philes" of their empty shells. But did we know that here an instinct is displayed to form associations with certain other organisms, all perched on the erstwhile domicile of a defunct prosobranch, an association often mutually beneficial? There are, for example, sponges, hydroids, zooanthids (a kind of anemone which forms a hard container for itself), actinarians (sea anemones) and bryozoans (moss animals). All such creatures are apparently delighted not only with the solid molluscan base to rest upon, but also with their pleasant company. It should be noted that the actinarians and the sponges are sometimes deliberately placed on the shell by Pagurus to serve as protection (actinarian stinging cells, nematocysts, scare off some foes) and as camouflage (the sponges). The hydroid colonies (Hydractinia) help the hermit crab even more: they extend the mats they form beyond the mouth of the shell they rest upon, and thus is enlarged the living space available for the crab inhabitant.

In one case a real chummy odd couple occurs. Nereis, the "blood worm" well known as bait to fishermen, lives in whelk shells (Busycon, Buccinum etc.) already inhabited by a hermit crab. The worm usually lies withdrawn in the upper whorls of the shell. But what happens if the crab is about to dine? One observer reports: "While I was feeding one of my soldiers (=hermit crabs) I saw protrude from between the body of the crab and the whelk shell the head of ... Nereis which rapidly glided around the crab's right cheek and, (seizing) the morsel of food ... forcibly dragged it from the crab's very mouth. I beheld with amazement ... that though the crab recovered his hold, he manifested not the least signs of anger ... Sometimes (the crab) gave a sudden start (while fighting for its food) ... which frightened the worm and made it let go and retreat." Sounds like an episode from the TV show of the same name.

Then there are the pea crabs (Pinnotheridae) who live inside the mantles of such bivalves as Mytilus, Venus and others. These are more than mere tenants, as once believed. It has been discovered that they steal some of the food which the mollusks have imprisoned in mucus bands to provide for themselves -- the crabs merely steal the food-laden bands for themselves. Often they also weaken or injure the gills of the bivalves and thus the pinnotherids approach the stage of being parasites (See: "Parasitic Crabs and Mollusks," by Jack B. Pearce, NYSC NOTES No. 244, September, 1978). Less well-known tenants of mollusks are the shrimp Pontonia which lives in the mantle cavity of the bivalve Pinna and the small fish Apogonichthys found regularly inside live stromb shells.

Another molluscophile is not even an animal. It is a single-celled algae called, because of its yellow color, Zooxanthella (xanthos is the Greek for "yellow"). Zooanthellae are found in the mantle tissues of Tridacna, where they grow and reproduce in a kind of green-house, since special structures in the Tridacna concentrate the sunlight on the algae and cause them to grow like the plants they are. Tridacna is known to use these zooanthellae as a source of food.

Zooanthellae are also found in some nudibranchs (Phyllirrhoe, Aeolidiella) that, however, acquired their algal supply by eating some coelenterates that regularly possess a supply. (Coral reef polyps, for example, need the zooanthellae to build the reefs.) It is not known what use the nudibranchs make of their algae. But the algae, apparently, are none the worse for their change of residence from coelenterate to opisthobranch.

This short report does not concern itself with the mollusk-parasite relationship. That is another topic, only remotely related to the present one.

Sources: several, but mainly J. A. Colin Nicol
THE BIOLOGY OF MARINE ANIMALS, New York, 1960.

DID YOU KNOW . .

ABOUT FOSSIL PEARLS?

"Some years ago, while looking over some sand (very carefully) that I had collected on the Chipola River in West Florida, from Oligocene strata, I found and saved a pretty little pearl. I afterwards found one in some Pliocene sand from California, and found one other in some sand from Claiborne, Alabama, which I had collected from the Eocene. Lately, while looking over some fossils from the Wood's Bluff Eocene from Thomasville and Choctaw Corner, Clarke County, Alabama, I found one other pretty little fellow, so that now we have four of them here for investigation.

Such fossil specimens may be in other museums, but I have not seen or heard of the fact after diligent enquiry among the wisest of our workers here."

Frank Burns, Ph.D in
NAUTILUS Vol.XI, July, 1898
(Contributed by M. C. Teskey)

HIGHLIGHTS OF THE JUNE MEETING

The annual election of officers, conducted by Frank Nelson, Chairman of the Nominating Committee, resulted in installations as follows:

President	William Walkwitz
Vice-President	Fred Cannon
Treasurer	Mathilde Weingartner
Corresponding Secretary	Marie Sussman
Recording Secretary	Milton Werner
Directors	Dorothy Janowsky, Harold Sussman, Nick Katsaras, William E. Old

Retiring President Veronica Johns ceremoniously presented Dr. Walkwitz with the stock of NYSC stationery. Bill Old, remembering that George Raeihle had made a gavel for presidential gratification, or distraction, fetched it from his office and it was later presented to the new incumbent, equally ceremoniously.

The first speaker, Dorothy Jensen, offered a three-part slide show, made up from earlier presentations. The first, titled "Jensonia," consisted of photographs of many of the shell-related artifacts in her extensive collection. Included were land snails cast or carved of many materials; bivalves, a Nautilus and others in glass; appropriately shaped dishes, vases, buttons, cups and pitchers; shells as decorations on utilitarian articles; examples of art by Louise Travers, Ethelyn Woodlock, and Tony D'Attilio; postage stamps; figurines; jewelry with real and simulated shells, and real shells "decorated" with worm tubes and barnacles.

Part two was a record of a collecting trip to Eleuthera. Part three, titled "Sea Shell Seekers, or, Position is Everything in Life," consisted of candid photos that caught club members in various stooping, reaching and searching postures, some in highly imaginative protective garb, on field trips and other collecting forays. All three shows were accompanied by taped narration and appropriate music.

The second speaker was Richard Goldberg. His subject, under the title "Gems of Tropical Seas," was Cypraea. With the accompaniment of color slides he sketched their evolution , and made observations on the structure of their mantles, the patterns of pigmentation in the shells, and their life cycles. He then showed slides depicting the better-known species from over a dozen of their major areas of distribution.

Milton Werner, Recording Sec'y.

A HELIX MISPLACED?

In a very nicely written book on plate tectonics, we came across the following statement:

"The garden snail Helix pomatia was found in both western Europe and the eastern part of North America." (Frederic Golden, THE MOVING CONTINENTS, Chas. Scribner's, 1972, p. 29.) We never heard of Helix pomatia as an eastern inhabitant. Pilsbry (1939) cites only the colony in Michigan introduced there about 1932 by an immigrant, plus a single shell discovered in Milwaukee, Wisconsin. Mr. Golden cited this as an instance explained by the Wegener theory of continental drift, i.e. identical animals living far apart on distant continents. The theory is correct, the example cited is not.

The mystery probably can be explained simply: Mr. Golden made a slight mistake. He must have meant Helix hortensis (= Cepaea hortensis) which is indeed found from Quebec and Newfoundland down to Massachusetts. Pilsbry, like many others, was puzzled by the enigma of a European species having lived in North America at least since the late Pliocene. The Wegener theory gives a valid explanation, i.e. that the two continents about 200 million years ago were joined.

M. K. Jacobson

A HUNDRED YEARS AGO

No. 6382 in DICK'S ENCYCLOPEDIA OF PRACTICAL RECEIPTS & PROCESSES, circa 1870: To Prevent the Formation of a Crust in Tea-kettles. Keep an oyster-shell in your tea-kettle. By attracting the stony particles to itself, it will prevent the formation of a crust.

ICZN re: VENUS PENSYLVANICA, CALYPTRAEA STRIATA

The following opinions (listed by number) have been published recently by the International Commission on Zoological Nomenclature (see Bulletin Zoological Nomenclature Volume 34, part 3, November 1977).

Opinion No. 1095 (p. 150)	*Venus pensylvanica* Linnaeus, 1758: designation under plenary powers as type-species of *Lucina* Bruguière, 1797 (Mollusca, Bivalvia).
Opinion No. 1097 (p.158)	*Calyptraea striata* Say, 1826 (Mollusca: Gastropoda): validation of.

Reprinted from CONCHOLOGISTS' NEWSLETTER No. 63,
December, 1977 (page 58).

* * *

Reading Opinion No. 1097 above brought to mind the only time we found *Calyptraea* (or *Crucibulum*) *striata* on Long Island -- or anywhere else, for that matter, although the range is given as "Nova Scotia to both sides of Florida." It was on Napeague Beach, not far from the eastern tip of Long Island, in late summer of 1956, that we found in a drift of shells one specimen of this Cup-and-Saucer Limpet, a well-marked *Lunatia triseriata*, three freshly dead Arctic Wedge Clams (*Mesodesma arctatum*) still with their periostracum, and a few smooth *Astarte castanea* in good condition. Each of these species was a real "find" for us and we eagerly planned another trip to Napeague. But next time the beach was swept clean, with not a shell to be found.

The Cup-and-Saucer Limpets and the Slipper Shells are closely related: Each has an inner compartment of shell -- the "cup" in the *Calyptraea* and *Crucibulum*, and the "shelf" in the *Crepidula*. In THE INVERTEBRATES, Volume VI, Mollusca 1, Hyman, 1967, it is explained that these inner shell structures somewhat take the place of the columella found in other univalves as a point of attachment of the gastropod to its shell (p.199). The illustration of forms of *Calyptraea*, *Crucibulum* and *Crepidula* (Fig. 65, E through L, p. 160) show only a *Crucibulum* (*auricula?*) to have a "cup" with its edges entirely free of the base shell.

It is interesting that the ICZN has validated the name originally given to this shell by Thomas Say who described it in the Journal of the Philadelphia Academy of Natural Sciences, Vol. 5, p. 216, 1826, as *Calyptraea* (*Dispotaea*) *striata*. I could not determine when or for what reason workers transferred it from the genus *Calyptraea* Lamarck 1799 to *Crucibulum* Schumacher 1817; it appears in Gould and Binney, 1870 edition of INVERTEBRATA OF MASSACHUSETTS, as *Crucibulum*. Now it seems to be back in *Calyptraea* where it started.

Translations show the names to be descriptive. From the Greek: calyptra = a veil, hood; dis = a separation; pot = a vessel or cup. From the Latin: crucibulum = a hanging lamp, or an earthen pot for melting metals; striatus = marked with channels (or elevated lines); auricula = ear (ear-shaped); crepidula = a small sandal.

Dorothy Raeihle

CYPRAEA LEUCODON Broderip, 1828

Robert Janowsky

Very few shells in all the world throughout history have stirred the imagination and stimulated the desires of collectors and laymen as has Cypraea leucodon Broderip, 1828. Look in the "Guiness Book of World Records" and there, under the category "rarest mollusc" you will find this shell. Of course there are many shells whose rarity exceeds that of the "Great-spotted Cowery" but for some reason it is this shell that has caught the public's fancy. One can not even calculate the number of non-collectors who have reported finding shells "just like the one in the Guiness Book" in Grandma's collection or in a dusty shop in Florida. These specimens turn out to be almost any other species of Cypraea, with C. tigris Linne being a leading contender for the honors. Not so the illustrated specimen -- the genuine article -- the real McCoy -- it is the first live-taken specimen of Cypraea leucodon that I have ever seen and, to the best of my knowledge, the first live-collected specimen in this country.

This specimen was collected in April, 1978 from water approximately 40 to 50 fathoms in depth off Punta Engano, off Mactan Island, the Philippines, in the same mesh nets that have yielded such treasures as Cypraea valentia Perry, Cypraea guttata Gmelin, and Conus gloriamaris Chemnitz. In the year and a half that this technique for shelling has been in operation there have been many reports of C. leucodon being collected. I am quite sure of at least four other shells being taken and would approximate at this point that a dozen or less specimens have been found from this area. For a great many years the shell was known only from a single specimen housed in the British Museum; it is this specimen that is illustrated in C. M. Burgess's "The Living Coweries," plate 23, fig. A and A1. A second specimen was later discovered in the Museum of Comparative Zoology's collection in Cambridge, Massachusetts. A third specimen was collected a few years ago in the Philippines, purchased by Mr. John duPont, and is now housed at the Delaware Museum of Natural History. This specimen was the only one I had ever seen previous to the one illustrated here. From what I have seen of the Delaware specimen and from what I can discern from photographs of the London and Cambridge specimens, I am forced to conclude that these three shells were all collected in dead condition, as all lack the luster and high gloss of a live-collected Cypraea.

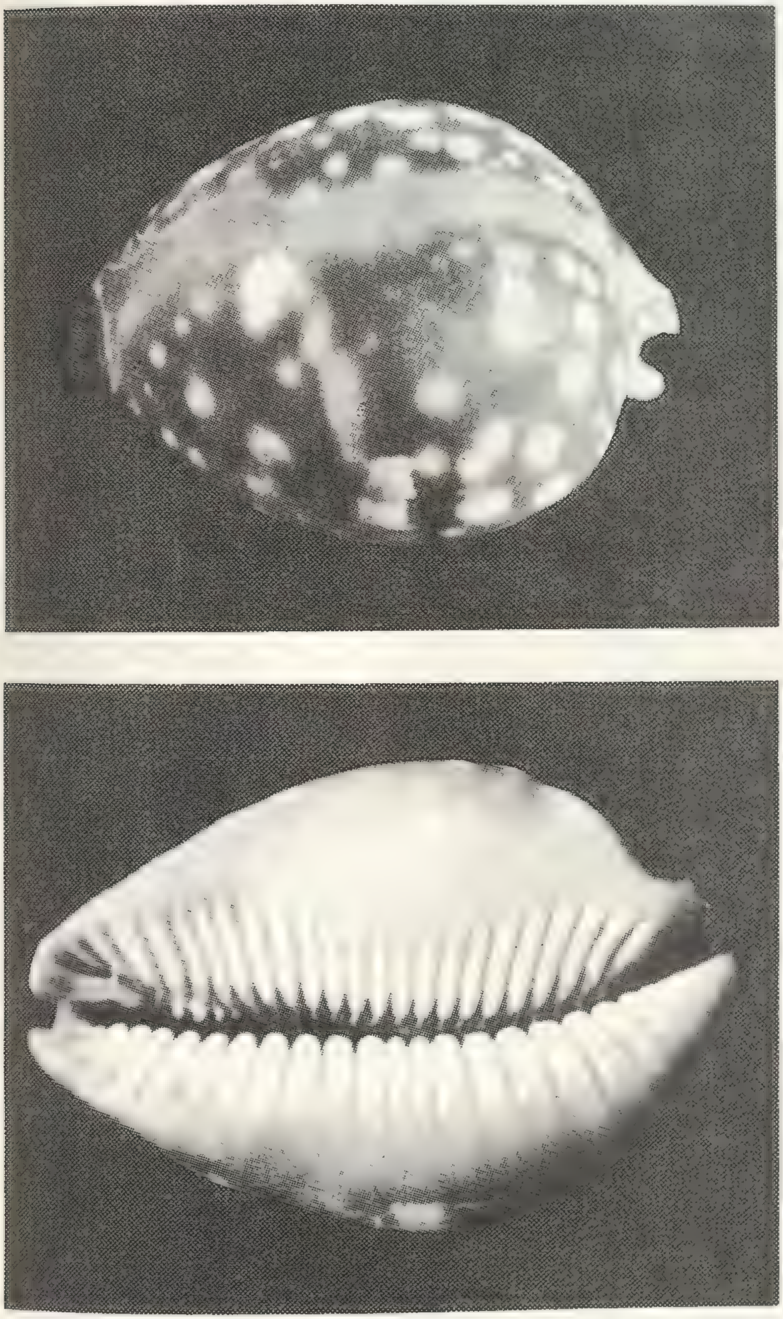
In his aforementioned monograph, Burgess states: "Cypraea leucodon is a distinct and spectacular species, as the illustrations show; and no further description seems necessary." Perhaps he is right, but at the risk of "writing the unnecessary" I would like to describe this specimen to you in some detail since an adequate description of this rare shell is not to be found anywhere else where a collector might easily find it. It is ironic that so rare a shell is so cavalierly treated by all the recent workers in Cypraea. Burgess treats it as above. Taylor and Walls in their "Cowries" dismiss it with a five line description. Joyce Allan devotes two paragraphs to the species but gives only the broadest description in "Cowry Shells of World Seas" and even Schilder and Schilder in their "Prodrome of a Monograph of Living Cypraeidae" are strangely noncommittal about description.

This specimen measures 77.5mm in length, 54.5mm at its maximum width and 43mm at its maximum height. The color of the dorsum is dark honey brown. The spotting on the dorsum is white with a very pale bluish cast to the color. Unlike the specimen illustrated in Burgess and in the works of Taylor and Walls (the British Museum specimen), the spots are not distinct or sharply defined but appear rather cloudy. I suggest that this may be due to the fact that several layers of nacre have been lost by this specimen which, if present, would "cloud" the appearance of this specimen as well. There is a wide and distinct dorsal line (approximately 5 to 6mm wide) which is brownish pink in color.

The color of the base is brown to tan, shading to very light cream at the teeth. The base, teeth and callus are all strongly developed. Labial teeth number 25 on this specimen and they are thicker than the 23 teeth found on the columella. There is a continuation of the teeth, both labial and columellar, into the posterior siphonal canal; they do not, however, occur in the anterior canal. The columellar groove is rounded; a distinct fossula occurs near the anterior canal and thin continuations of the teeth are to be found.

This specimen appears to be fully mature and its measurements fall in between the two specimens mentioned by Burgess. The spire and protoconch are fully covered and there is a slight depression around the spire. The canals of this shell are extremely thickened.

To once see this shell is to know it always. I am pleased to have had the opportunity to examine this very rare and beautiful species and to share my observations with you.



Cypraea leucodon Broderip 1828

The specimen discussed and illustrated is in the collection of Mr. and Mrs. H. Horn, Nairobi, Kenya.

NEW YORK SHELL CLUB INC.

FOUNDED JAN. 1949

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ROOM 426, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, NOVEMBER 12, 1978, at 2:00 p.m.

PROGRAM: MARGINELLAS --- AND A FEW OTHER THINGS
by Nick Katsaras

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PUBLICATIONS:

A SPECIAL ISSUE THIS FALL

The FESTIVUS is proud to announce its publication of a special issue this Fall entitled, "Muricacea; Catalogue of the Family Coralliophilidae," by Anthony D'Attilio, co-author of "Murex Shells of the World," and assistant to the curator of Marine Invertebrates at the San Diego Natural History Museum. In the words of the author, this "catalogue consists of all taxa proposed for the family, specific and supraspecific. The list is complete as far as my research has shown."

This work, an ambitious undertaking, will be a valuable tool for the researcher and amateur alike. As a service, the FESTIVUS will make copies available to non-members and/or additional copies to members at $2.00 a copy. (To get this issue along with the complete set of the FESTIVUS for 1978, send $3.00 for U.S. membership, $3.50 overseas, payable to San Diego Shell Club, Inc., c/o 3883 Mt. Blackburn Avenue, San Diego, California 92111.)

From the San Diego Shell Club publication
FESTIVUS, Vol. X, No. 8, p.63, Aug. 1978.

(Editor's note: We recommend the $3.00 package.)

OF FUTURE AMU MEETINGS

AMU president William E. Old advises that the dates for the 1979 meeting at Corpus Christi, Texas, will be August 5 - 11, with headquarters at the La Quinta Royale Motor Inn at 601 North Water Street. It will be a joint meeting with the Western Society of Malacologists.

In 1980 the AMU will meet at Louisville, Kentucky, when Dr. Clyde Roper of USNM will be president. For 1981 the meeting is scheduled for Washington, D.C., with Dr. Richard S. Houbrick of USNM presiding.

NORTH CAROLINA FIELD TRIPS

Our hosts at the AMU meeting had arranged for Friday, July 21st, a number of field trips for us to choose from according to our interest: land, freshwater, marine, fossil, or a trip to a Marine Resources Center.

The site for one of the marine-collecting field trips was Lea Island, on the outer edge of the Intracoastal Waterway, northeast of Wilmington, N.C., and just southwest of Topsail Beach. The trip began with a bus ride to the Municipal Dock at Wrightsville Beach. Here the party of about a dozen boarded a small shrimp trawler for an 11-mile run northeast along the Waterway, with attractive scenery to both port and starboard. For the final shallow-water run to the island we transferred, in two groups, into the outboard that had accompanied us.

The island is small enough to be uninhabited, and barren except for high grass and low shrubs, but too big to be circum-strolled in the three or four hours of our stay. Too big, at least, for stop-and-stoop types who had to return to point A when hunger brought to mind the box lunches in the ice chest.

The sky was clear, the sun was high, and one tenderfoot got a lesson in what the color tones of sand can signify. The bright grains near the water were hot but not uncomfortable. In the higher tidal area the surface was faintly marbled with streaks darkened by black grains. It was as hot as the hardware of Hades. Excruciating. One could be astonished even while executing a frenzied fandango with vocal accompaniment. Over the long haul, one could also get redder on the tops of the feet than elsewhere, despite occasional wading, and the employment of protective concoctions, shoes, and heaps of sand.

Unfortunately, the area had not recently been lashed by a devastating storm, so the mollusks were carrying on much in accordance with their natural, inconspicuous preferences. Some, notably *Terebra dislocata*, began to pop out of the sand with the dropping of the tide. The *Homo sapiens* who happened to be in the right place at the right moment had time for a few quick grabs before running for the last boat.

So almost all of the loot came from the beach, most of it was bivalves, and most of them were represented by single valves not in mint condition. My pickings added up to these 18 bivalves and four gastropods:

Anadara brasiliana
" ovalis
Argopecten irradians concentricus
Barbatia candida
Chione cancellata
Crassostrea virginica
Dinocardium robustum
Divaricella quardrisulcata
Donax variabilis (live)
Dosinia discus
Ensis directus
Noetia ponderosa
Semele proficua
Spisula solidissima
Tagelus plebeius
Tellina alternata
" mera (?)
Trachycardium egmontianum
Crepidula fornicata
" plana
Polinices duplicatus
Terebra dislocata (live)

One of the group, who evidently moonlights as a bird-watcher, mentioned a red-footed booby, but I didn't see any birds except gulls.

The reason for the rigidity in departure time became apparent when we went aground in the channel on the return voyage. It took the captain about twenty minutes of scooting around in the outboard to "find the water," making his soundings with a shovel handle. But neither the halt nor the lackluster collecting made the day less than pleasant and interesting.

Milton Werner

Another trip for marine-collecting was to Masonboro Island, a barrier beach off Wrightsville Beach, and facing generally eastward. Our group of fifteen was ferried to the island in two trips by a boat powered by two large outboard motors and captained by Dr. Gilbert Bane who on Wednesday evening had given us a delightful special program on "Sharks and Rays: Jaws Too!" The craft left Wrightsville Beach about 9:30 a.m. for a short ride up the inlet to a small beach on Masonboro Island. We were landed on a strip of sand which was bordered on three sides by marsh grasses and tide pools; the tide was still high but had started to recede.

It was sunny and hot, with no breeze. Soon we started across the strip, wading much of the time, toward the ocean side of the island. On the grasses (Spartina sp.?) were Marsh Periwinkles, Littorina irrorata. There were thousands of them; I never imagined so many. Each was well out of water on the grass stems.

The ocean beach was lined with dunes perhaps fifteen feet high, and atop them was a breeze and a panoramic view back across the marshes and inlet. The ocean beach was wide and littered with fragments of shells familiar to us in New York and others we had previously encountered only in Florida: Baby's Ear (Sinum perspectivum), Sunray Venus (Macrocallista nimbosa), Cross-barred Venus (Chione cancellata), Kitten's Paw (Plicatula gibbosa), the Giant Cockle and the Prickly Cockle, and others, alongside the familiar Jingle and Clam and Oyster shells and fragments of the Knobbed Whelk. A single valve of Mercenaria mercenaria seemed unusually heavy for its size so we brought it home to check it against a local specimen but found them the same. Investigating the activity in the water's edge, we found mole crabs scrabbling to get back into the sand as fast as the water washed them out. We had hoped to find living Donax here, but the only representives on the beach (at least the section we examined) were a very few scattered, very beachworn, single valves. ... The beach sloped sharply in the surf so, for safety's sake, there was no swimming.

Turning back to the dunes, Dorothea Franzen found Succinea campestris in an unusual oceanside station. As we left the dunes we again disturbed some small birds (Least Terns?) which apparently were nesting nearby. Returning across the island, Dr. Franzen found more Succinea campestris, a small colony able to exist because of the slight elevation of a tiny hammock.

Ever since we had arrived on the island the tide had been dropping; the tide pools were now drained and the Littorina irrorata had descended the grass stems to the level of the damp mud. There was an extremely low tide that afternoon (-1.0) exposing the beach and flats at the inlet side and revealing thousands of fiddler crabs, thousands of mud snails (Ilyanassa obsoleta) and thousands of small barnacles on the stems of the reeds, but only on those reeds within a foot or so of the open water.

Meanwhile, the sturdier and more ambitious shellers marched up the beach to far, far out of sight. On their return one collector had a live left-handed Lightning Whelk (Busycon contrarium) of about ten inches. It was a beauty, and clean. Other shells were a crab specimen of B. contrarium with its aperture lined with Crepidula plana and a couple of large ribbed mussels, Geukensia demissa. Reported also were small specimens of an Oyster Drill and an empty Tulip Shell, and some interesting birds: a Wilson's Plover, several Oyster Catchers, and both Common and Least Terns.

Mid-afternoon, after our very interesting excursion, we were ferried back to Wrightsville Beach where the bus was waiting to take us back to the campus.

Incidentally, wearing white sneakers and socks, constantly wet, I was generally unaware of the heat of the sand.

Others who went to Lake Waccamaw for freshwater collecting came back with a satisfactory sampling of bivalves and a few gastropods. I did not learn of the results of the canoe trip or the trip to collect fossils.

Dorothy Raeihle

POSTSCRIPT: On July 22nd a visit to the beach beyond Fort Caswell was of additional interest. Caswell Beach is possibly twenty-five to thirty miles from Wilmington, down toward Cape Fear, and faces south. Again, with one exception, species were represented by beach-worn material, but we added to our list the Angel Wing (Cyrtopleura costata, the False Angel Wing (Petricola pholadiformis), the Fallen Angel Wing (Barnea truncata), the Pen Shell (Atrina rigida), the very fragile Channeled Duck Clam (Raeta (=Anatina, =Labiosa) plicatella), the small Razor (Ensis minor), the Dwarf Surf Clam (Mulinia lateralis) and Oliva sayana, the Lettered Olive, to 2". The exception was Donax living in the water's edge.

dr

HAVE YOU FOUND A CUP-AND-SAUCER LIMPET ON LONG ISLAND?

In response to the article in last month's NOTES, page 5, which contains remarks on Calyptraea (=Crucibulum) striata, we have the following letter from our member Ernest Walton:

> I found a specimen of this shell half buried in the sand of the Atlantic Ocean side beach of Long Island along Old Montauk Highway. This spot would be about two miles further east than where you found your specimen, assuming that you found yours on the ocean beach also (correct. -Ed.) and not in Napeague Bay. I came across mine in the summer of 1965.
>
> Perhaps other club members also have collected this shell and could help to establish this shell as an inhabitant of our area. It would be interesting to hear from them.

If this species is "Commonly dredged in shallow water," (Abbott, 1974) and if Jacobson (1961) "...once collected 25 fine specimens in Jamaica Bay," surely more of our members have come across this uncommon shell. Please let us hear from you.

dr

MINERAL PRODUCING PRIMITIVE SEA CREATURES

Robert J. L. Wagner

Looking over some of my vast amount of articles pertaining to the sea, I came across one by George Getze, a reporter who specializes in science. It seemed interesting enough to pass it on to you "shellers," so here 'tis.

A primitive sea creature called the chiton may show science how life could have developed on other planets in an entirely different way from the way it developed on earth.

The chiton, in fact, is living proof that earth animals are able to perform some of the "mineral" processes that were carried out by geological forces before life appeared. The chiton is one animal that might be more interesting to geologists than to biologists.

Without the use of high temperatures and high pressures that are needed deep in the earth to do the same thing, the tiny chiton produces four different minerals, including two compounds of iron.

First, these widely distributed mollusks have teeth coated with magnetite, or magnetic iron. Some chitons have a second kind of iron mineral in their teeth. This is lepidocrocite, a mineral that never before has been found to have a biological source.

A third mineral is francolite, a phosphate, which is also found in the teeth of chitons. The iron compounds and francolite are not all mixed up together but are arranged in patterns that look something like the work of abstract art.

Dr. Lowenstam, professor of paleoecology at Caltech stated that "it is possible that life somewhere else may be based on the iron atom instead of the carbon atom as it is on earth."

Still another mineral precipitated by the chiton is calcium carbonate, found in coral skeletons and shells, which the chiton uses for its protective shell plates. Thus, some chitons precipitate more different minerals than any other known animal. Not bad for such a lowly creature, eh?

Reprinted from 1978 Jacksonville,
Florida, Shell Show Booklet, p.24

XENOPHORIDAE

The members of the family Xenophoridae (Carrier Shells) have a habit of cementing pebbles, sand, shells and their fragments, with an occasional bit of coral, and sometimes a small sponge, to the outer surface of their own shell. Naturally, they must use whatever is available in their particular habitat, so that some specimens are more attractive than others of the same species. Those selecting pebbles and bits of rock are called "Geologists," while those that acquire other shells are known as "Conchologists." The Japanese call them "Kumasaka Gai" or "Robber Shells," after a notorious Japanese robber and highwayman, Kumasaka.

Clyde H. Hebert in SHELL-O-GRAM Vol. 19,
No. 8, August 1978. Jacksonville Shell Club

CYPRAEA TERAMACHII Kuroda, 1938

Robert Janowsky

A favorite topic of discussion among Cypraea collectors around the world is the relative rarity of some of the species of this family. Often as not, the question is brought up as to which is the rarest species. I do not expect to ever to be able to give a real answer to this question. There are certainly many Cypraea of outstanding rarity (not a few of which I have reported on in past issues of the NYSC NOTES). One species, though, that is often overlooked as a possible contender for the title of "rarest" is Cypraea teramachii Kuroda, 1938.

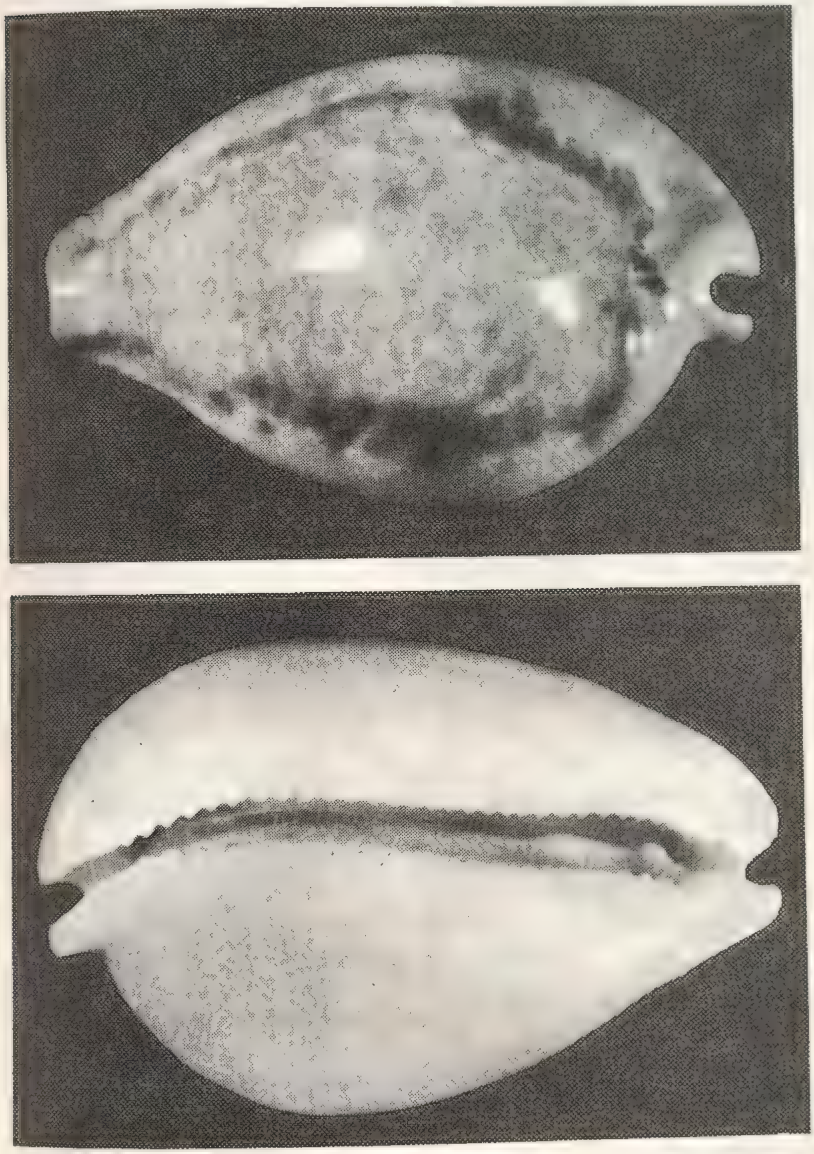
This very rare species seems to come from a very restricted range and from deep water. Burgess, in "The Living Coweries" (c. 1970 - A. S. Barnes & Co., Inc.), reports that this species has been recorded only from the Kii Straits of Japan from an approximate depth of 70 fathoms. In 1974 T. C. Lan reported in the Bulletin of the Malacological Society of China (Vol. 1) that Cypraea teramachii has been taken from the Straits of Taiwan and from Northeast Taiwan as well. Lan observed that the species is "usually taken dead with dorsal pattern obliterated; one live specimen taken about every seven years" -- observations that, in my experience, seem to be accurate. (On April 10, 1978, a dead adult specimen 55mm in size was dredged south of New Caledonia by the Oceanographic Research Vessel "Vauban," at a depth of 390 - 395 meters -- a new record for this species.)

Joyce Allan was apparently unable to study a specimen of Cypraea teramachii for her book "Cowry Shells of World Seas," first published in 1956 by Charles T. Branford Co., as she states, "It would be interesting to see a specimen of it, but apparently it is extremely rare."

The illustrated specimen was collected in April, 1978, by a fishing boat operating at unreported depth off Ilan, northeast Taiwan. It measures 68mm over its length, has a maximum width of 43mm and a height of 34.3mm. The specimen is rather different in color from the specimen illustrated in Burgess (Plate 3, fig. E), which is a specimen from the collection of Mr. A. Teramachi. The specimen illustrated herewith is far lighter in color at the margins and darker on the dorsum than the Teramachi specimen; the dorsum of this specimen is cream above the marginal line and changes to light tan speckled irregularly with light orange at the central part of the dorsum. There is a dorsal "ring" of irregularly sized orange spots which separate the marginal areas (unspotted) from the dorsum. The margins are high and unspotted and generally peach colored. The base is cream colored near the aperture, changing to peach at the roundly developed margins.

The dentition of the columella consists of six weakly developed teeth near the posterior canal (strongest development nearest the canal). The middle teeth are so weakly produced as to be almost absent. There are twelve teeth more strongly produced than those at the posterior canal near the anterior end -- the terminal teeth are again the strongest. Dentition on the labial side consists of thirty-two well developed teeth -- again, those in the middle of the lip are less strongly produced while those nearest the anterior canal show the strongest development. The columella is plain and there is no evidence of the dentition crossing onto the columella. There is a deep fossula near the anterior canal, closed off from the canal by a strong toothlike continuation of the terminal ridge.

The protoconch and spire are heavily calloused over. There is a slight umbilical appearance when viewed from the posterior end.



Cypraea teramachii Kuroda, 1938

Little more is known about this species -- so far as I know, the animal has never been seen and its habitat remains unknown. At the present time I am aware of the existence of two live-collected specimens of this species in private collections in the U.S.A. My good friend and NYSC member Masao Tobakotani has made me aware of several more live-collected specimens in Japan, collected in the last few years.

I am unaware of any museum in this country having a live-collected specimen of *Cypraea teramachii* in its collection. A color photograph of the specimen illustrated here is available in the study collection of the American Museum of Natural History in New York. The specimen is presently in the collection of Mr. and Mrs. H. Horn of Nairobi, Kenya.

The photograph accompanying this article was made by Robert Janowsky.

SOME HIGHLIGHTS OF THE SEPTEMBER MEETING

President Bill Walkwitz announced a new feature for meetings: displays of shells from members' collections. For this purpose, Dotty and Bob Janowsky had donated a glass-topped case, with lock. Vice President Fred Cannon will process requests to make use of the case. An attractive array of shells owned by the Walkwitzes and the Janowskys made up the inceptive display. ... The main speaker was George Raeihle, who showed a number of his magnificent photographs in a new arrangement, under the title "Seashells and Seashores."

Milton Werner, Rec. Sec'y

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NEXT MEETING: SUNDAY, DECEMBER 10, 1978, at 2:00 p.m.
PROGRAM: REMINISCENCES OF SHELL SHOWS PAST
by William E. Old

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GORDON NOWELL-USTICKE

We regret to announce the death, on September 25th, of our longtime member Gordon Usticke. Born in England near the turn of the century, his was a long and varied career. He served in the British Army in World War I, attaining the rank of Major. Later he emigrated to this country and became a dealer in rare stamps of the United States, using the firm name of "Stanley Gibbons of New York" (not related to "Stanley Gibbons of London").

While on a visit to Virginia Beach in the early 1950's he evinced an interest in shells and asked to be directed to someone knowledgeable on the subject. He was referred to Bill Old, then living in Norfolk, and thus began his long association with shells and the New York Shell Club.

He was a resident of New York and occupied an apartment on Central Park West until his retirement to St. Croix, where he owned acreage and a home which already had become his permanent address. It was at a meeting of the New York Shell Club in the fall of 1956 that he announced the closing of his city apartment and invited all present to visit his place after the meeting to collect his surplus shells. It was a very generous gesture and, needless to say, his invitation was accepted.

He is first mentioned in NYSC NOTES in No. 16, as "our own Mr. Usticke" who brought many limpets from the Virgin Islands to the 1955 meeting of the American Malacological Union at Staten Island. Upon his retirement he became our "West Indian correspondent" and in the following ten years contributed many articles to these NOTES, chiefly concerning the fauna of St. Croix and neighboring islands, but also sending us his "Listing of Marine Shells Collected at Sheffield Island, off Norwalk, Connecticut, July 9 & 10, 1955" (NOTES No. 53) and "Excerpts from a World-wide Collecting Trip" (NOTES No^{s} 92 & 93).

In 1959 he published his "Checklist of the Marine Shells of St. Croix," to be followed in 1968 by "Caribbean Cones from St. Croix and the Lesser Antilles." We understand that he had another manuscript in preparation at the time of his death.

Stamps and shells were not his only interest: a major accomplishment was the amassing of a fabulous collection of Rembrandt etchings. These he enjoyed for years before disposing of them in two sales in the late 1960's.

Mr. Usticke suffered declining health for several months before his death. His many friends and associates will miss him.

W. E. Old, D. Raeihle

SHELL SHOW DATES

January 12 - 14	Southwest Florida Conchologists Society. For information, write to the Society, P.O. Box 846, Fort Myers, Florida 33904. OS&S
January 19 - 21	The First Annual Astronaut Trail Shell Show will be held at the Kiwanis Island Center, Causeway 520, Merritt Island, Florida. For details, entry blanks, or to advertise in the show program, contact Show Chairmen Jim and Bobby Cordy, Astronaut Trail Shell Club, 385 Needle Blvd., Merritt Island, Florida 32952. OS&S
January 26 - 28	The Greater Miami Shell Club's seventeenth Shell Show to be held at Planet Ocean, 3979 Rickenbacker Causeway, on Virginia Key. You are invited to participate. Entry forms should be sent no later than January 9. For information and/or entry forms, write to: Ted Jacaruso, 1979 Shell Show Chairman, Greater Miami Shell Club, 9385 S.W. 109th Terrace, Miami, Florida 33176.
February 2 - 4	Broward Shell Club Show. For information write to Chairman Ruth Chessler, 7401 S.W. 7th Street, Plantation, Florida 33314.
February 16 - 18	Palm Beach County Shell Club Show. For information write to Chairman John Root, P.O. Box 182, West Palm Beach, Florida 33402.
March 9 - 11	Central Florida Shell Club's seventh annual Shell Show, at a new location: the Winter Park Civic Center, 2005 Mizell Avenue, Winter Park, Florida 32789. OS&S

We thank "Of Sea and Shore" and "The Mollusk" for the above information on the coming season's shell shows.

LIFE REVIVES IN OLD BREVARD

Melanoides tuberculata (Müller)

Morris K. Jacobson

In a recent number of this periodical I reported on the presence and the subsequent destruction of a large colony of the imported tuberculate thiara snail, Melanoides tuberculata (Müller), in the public swimming pond on Port Malabar Boulevard in Palm Bay, Brevard County, Florida (NYSC NOTES No. 240.3,4. "Some Notes on the Molluscan Fauna of Brevard County, Florida, Part II."). But the destruction I reported proved to be more apparent than real.

When I returned to Palm Bay after a stay of three months in New York, I found to my satisfaction that the snail population had restored itself very well. The white, sandy bottom was again crisscrossed with snail trails, and duck footprints were entirely missing. In general there seemed to be somewhat fewer Melanoides individuals than were present before the duck slaughter, but this may have been due to the fact that there were many more juvenile forms than previously. Yet several individuals had reached more than an inch in length. Snails, large and small, were seen everywhere and no ducks were to be seen.

The entire incident is similar to one I witnessed in Cuba many years ago in which the snail collectors of Cuba (and I) played the role of the ducks, and the rare and beautiful brown Liguus flammellus carbonarius Clench, 1924,the role of the tuberculate thiara. On one occasion a friend and I found ourselves in the town of Viñales in Pinar del Río Province. This was not far from the Mogote (a small, steep-sided limestone hill) de Pita, the type locality and only spot where carbonarius was to be found. We decided to collect some specimens. We therefore asked a Viñales shell collector how one gets to the Mogote de Pita.

"Señor," he said to me, "you seek this delightful locality no doubt because of your desire to collect carbonarius, true?" I admitted the fact.

"But it would be all in vain. The species is gone, collected until not a specimen remains. I know because I have been there several times. When your estimable Doctor Clench described the new form many years ago, all Cuba's malacologists hastened to the spot as to a gold find, and soon no specimens were to be seen. A pity."

I also thought it a pity and, with my friend, decided to give up the excursion since access to Mogote de Pita in the stifling heat of a Cuban summer was nothing to undertake lightly.

A few days after this we were examining the shell collection of a Señor Pequeño in Pinar del Río City. I was happy to find a large jar full of magnificent specimens of carbonarius.

"You without doubt," I said to Pequeño after he had presented a nice lot to me, "gathered these shells long, long ago soon after the form had been described."

"On the contrary," he assured me, "I collected them a few weeks ago and there were many, many more there which I did not choose to take."

It soon became obvious what had happened. After the first invasion of collectors and the frenzied collecting that ensued, word soon spread that the new subspecies had been "collected out." A tedious trip to the Mogote Pita would thus be useless. The carbonarius colony was left unmolested -- that is to say, the smaller, immature specimens and the unhatched eggs (Liguus deposits its eggs below the surface of the soil. -Ed.), and carbonarius was able to recuperate. The same thing must have happened in the case of Melanoides and the ducks. Word swiftly spread among the ducks that toothsome thiara snails were no longer available in Port Malabar Pond. Ducks stayed away and the colony quickly revived. (A thiara observed in the aquarium hatched as minute crawling young. -Ed.)

These two instances illustrate Dr. Tucker Abbott's premise that collectors alone cannot exterminate colonies of mollusks, especially rare species in not easily accessible places; that colonies have a built-in protection from extermination by collectors (as outlined above), and that only when the ecology of a locality is severely damaged do the creatures vanish completely.

HIGHLIGHTS OF THE OCTOBER MEETING

The day's display of shells from the collections of members, a new feature of our meetings, were specimens named for Hugh Cuming, in recognition of our invited speaker's topic. The shells were drawn from a number of collections including that of the American Museum.

Cecelia and Mansfield Fuldner announced that the day was their 57th wedding anniversary. A round of applause helped them mark the event.

Bella Kudatsky announced that she is willing to sell her set of Shell Notes, which is complete from No. 37 to date.

The speaker for the day was S. Peter Dance, English author and conchologist. His presentation was titled, "Hugh Cuming - Prince of Collectors." Mr. Dance noted that twenty years ago, when he first became interested in this early, renowned collector, his first attempts to find information on his life and his impact on conchology were futile. It required diligent searching to turn up the bits and pieces that now form a fascinating, if incomplete, account of his background and conchological activities.

Cuming was a sailmaker who emigrated from England to Buenos Aires in 1819, to set up his own business. In 1822 he relocated to Valparaiso, Chile, where he made conchological studies locally. He retired in 1826, wealthy and still a young man. Mr. Dance conjectures that much of his fortune may have come from smuggling or gunrunning. He built a yacht designed for natural history exploration and named it "Discoverer." Cuming's journal for his first expedition, to Polynesia, was never published, and Mr. Dance is the only conchologist who has read it. "Discoverer" made its second voyage in 1828-29, from southern Chile to Honduras.

Cuming returned to England in 1831. His third and last, and greatest, expedition took him to the Philippines in a commercial vessel. The journal of this voyage was lost, and the records are in letters. The trip extended from 1836 to 1841, and the cargo of horticultural specimens, insects, mammals, etc. he donated to institutions. He sold many of the shells. In 1846 he suffered an illness, possibly a stroke, from which he never fully recovered, although he visited the United States in 1850. He apparently spent the rest of his life as a shell dealer, and he died in 1865. The following year his entire collection was bought by the British Museum.

The data for his later life are not as reliable as the later records. That his position in the conchological world was controversial was shown by Mr. Dance with a quote from a laudatory statement written in 1864 by Lovell Reeve, and another from a derogatory one written by Charles Hedley, of Australia, in 1910.

Milton Werner, Recording Sec'y.

REVIEW:

Wagner and Abbott's
STANDARD CATALOG OF SHELLS

Third Edition, 1977, with Supplement I, September 1978. Approximately 300 pages, 8½" x 11", plus a 50-page "Shell Collector's World Atlas" plus a stack of catalogue sheets for you to use in your own cataloguing, all on sturdy stock; four color plates, 500 or more black and white line drawings. Published by American Malacologists, P.O. Box 4208, Greenville, Delaware 19807. Heavy duty postbinder, guide tabs, list price (including Supplement I) $40.00.

The color plates are of 77 tent cones reproduced in natural size; the line drawings are scattered throughout the catalogue facilitating identification of the commonest species. The section on values is prefaced by a discussion of the fluctuation in supply and demand which is reflected in market values, and includes the italicized statement, "This shell catalog should not be confused with a dealer's price list which is prepared for a limited time and is based on the individual dealer's supply."

There is also a section on World Size Records. Did you know that the largest Giant Clam on record is right here at our American Museum? And also the world record Lunatia heros, which was collected on Long Island and measures almost 4½".

The best way to indicate the scope of the Catalog is to give you excerpts from the preface, in which its main purpose is described:

"A listing of the known species in each genus, so that one may determine the completeness of one's collection. Synonyms or obsolete names are included, so that those exchanging or purchasing may avoid duplications.

A natural classification of the mollusk shells showing the biological order of the various classes, families, and genera, so that one's collection may be arranged for easier consultation.

A bibliographic reference section...."

In these first published sections of this third edition there are thousands of listings in 17 families. Future supplements will cover additional families, bring to date values and size records, and make any alterations or additions necessary to keep you informed.

To order or for further information, write to the publisher, American Malacologists, P.O. Box 4208, Greenville, Delaware 19807.

D. Raeihle

CONUS MILNEEDWARDSI Jousseaume, 1894

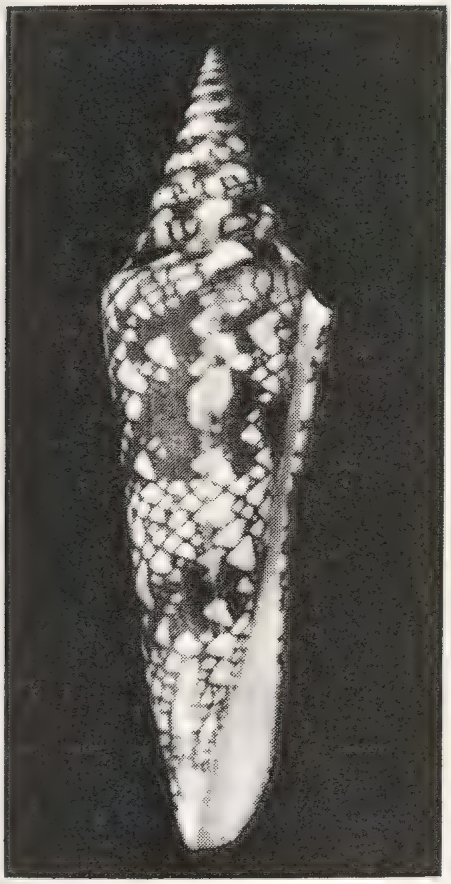
Robert Janowsky

There are certain species of shells that for one reason or another can exert an undue influence on the mind of even the most rational of shell collectors. Such a species is Conus milneedwardsi. I can date the beginning of my infatuation with this shell from late 1969 or early 1970 based on a painting of the shell by George F. Sandstrom which was reproduced in color on the front cover of Van Nostrand's "Standard Catalog of Shells," second edition. I knew then that I would not be happy unless I was able to get a specimen of this beautiful shell for my collection.

Years went by, and although I was able to get offers of almost every other species of shell that one can think of -- no C. milneedwardsi. Finally, one day we hit pay dirt: another dealer (who shall remain nameless in this sordid tale) received an offer from a party in South Africa for not one, but fully a dozen specimens of Conus milneedwardsi and, since twelve specimens were more than he could handle, wanted to know if I'd be interested in splitting the lot with him. This was perhaps the most complicated deal in which I had ever been involved, though now, in retrospect, it seems comparatively tame. The shells were to be sent to the bank of the person sending the shells from South Africa who would then in turn send it to the bank of my co-conspirator in the United States where we had posted the necessary funds in escrow. After an exasperating series of delays the big day finally arrived. I'll never forget the disappointment that I felt when our twelve beautiful gem-condition specimens turned out to be broken, beachworn mockeries of that beautiful picture on the cover of "Van Nostrand's ..." I learned a lesson, though, -- this is a tough shell to get in good condition; there is a great degree of difference between what we think of as the ideal (the picture) and the real (the several thousand dollars worth of beach specimens staring us in the face).

Conus milneedwardsi Jousseaume, 1894 is a species that, like its two close relatives, Conus gloriamaris Chemnitz 1777 and Conus bengalensis Okatuni, 1968, is a deep-water shell and is apparently from a rather limited geographical range. In recent years specimens have been found off India, South Africa, Réunion, and Madagascar (Indian Ocean) and from Japan and Taiwan as well. Maurice Veillard, author of "Cones et Porcelaines de l'Île de la Réunion" (copyright 1976 by Libra Press, Ltd., Hong Kong), makes the following comment about this species: "Of the few specimens which have been caught in Reunion (nine, to my knowledge), most have been brought back by scuba divers from depths between 45 and 80 metres. They all seem to come from the west coast." It is a very large species and Monsieur Veillard has in collection a dead-collected specimen that is presently considered to be the world's record in size at an impressive 163mm.

It appears that there are two rather distinct forms of this species. Specimens that come from the Indian Ocean are quite readily separable from those specimens that come from the Orient. The differences between the forms can be somewhat extreme and, in fact, the specimens that were collected from the Amami and Ryukyu Islands (Japan) were named as a separate species, Conus kawamurai, by Habe in 1962. His description was based on three specimens, collected from the above mentioned localities, that were low-spired -- unlike the typically high-stepped spire which is a key feature of Conus milneedwardsi. Subsequent fishing operations in the waters around Taiwan have brought to light several more specimens which do have the typical high spire. There is a difference in the pattern: the white triangular markings ("tents") that form the ornamentation on this shell are smaller and tend to overlap less on the C. kawamurai than they do on the C. milneedwardsi. This tends to make the bands on the body whorl appear to be more prominent on the C. kawamurai than on the C. milneedwardsi. It is now conceded that C. kawamurai is, at best, a form of C. milneedwardsi and the name is placed in synonomy.



Conus milneedwardsi
95.7mm specimen
Photo by R. Janowsky.

From my observations to date I must also conclude that the specimens from the Indian Ocean tend to be a bit larger than the Oriental specimens but there is no reason to believe that there are not larger specimens, too, off Taiwan, that have not as yet been found. As in the case of any other rare shell, it is very easy to find great differences when only a few specimens are examined. These differences seem to disappear when a greater sample is available for study.

The illustrated specimen was collected this past spring by a fishing boat working at an approximate depth of 40 to 45 fathoms off Southwestern Taiwan. It measures 95.7 in size and is one of the most striking of its kind that I have ever had the pleasure of seeing. It has the small tents that we associate with the Oriental specimens of C. milneedwardsi and the overlying color is a rich deep brown. The color within the aperture is pink, and the specimen is just about in perfect condition. This specimen is in the collection of NYSC member Constance Duprey of Nashville, Tennessee.

NEW PUBLICATION: MONOGRAPHS OF MARINE MOLLUSCA,

devoted to the systematics, biology, zoogeography and taxonomy of marine mollusks, is issued with color plates in looseleaf form compatible with the former INDO-PACIFIC MOLLUSCA. Subscribers to the latter should now apply for the continuing editorial production of the editor, Dr. R. T. Abbott. Number 1 is "The Family Cerithiidae in the Indo-Pacific" by R. S. Houbrick. In preparation: Mitridae by W. O. Cernohorsky, Babylonia by Altena and Gittenberger, and others. Subscribe by writing American Malacologists, Inc., P.O. Box 4208, Greenville, Delaware 19807, or telephone: (1-302-239-2025).

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The NEW YORK SHELL CLUB meets on the second Sunday of each month, September through June, in

ROOM 426, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, JANUARY 14, 1979, at 2:00 p.m.

PROGRAM: CONFESSIONS OF A DRAMALACOLOGIST: A DECADE OF SHELL CLUB INVOLVEMENT by Mart Hulswit

HAPPY NEW YEAR

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HIGHLIGHTS OF THE NOVEMBER MEETING

President Bill Walkwitz announced the recent death, at an advanced age, of member Gordon Usticke, eliciting reminiscent comments by Nick Katsaras and others present.

Bill also announced that the second edition of AMERICAN MALACOLOGISTS is now in preparation, and that forms were on hand for any who might wish to be listed in it.

Milton Werner noted that Dr. Dorothea Franzen, of Illinois Wesleyan University, Bloomington, Illinois, would appreciate the loan of Succinea specimens, especially Catinella, for study.

Attention was drawn to the small terrarium on the front table which held about two dozen specimens of Eobania vermiculata Muller, progeny of escargots from the Mediterranean which had been purchased at a local food market. Marie Sussman had kept notes on the progress of specimens through two or three generations. She offered to lend the terrarium to anyone who might want to continue the observations, and Judy Kurzer took them for the school class she teaches.

The shell display for December will be of Marginella from the collection of Ed Cowles.

The speaker of the day was Nick Katsaras, whose presentation was titled, "Marginellas and a few other things." He began his illustrated talk with the "other things" -- photos of shells that were or are in his collection, and that are rare or exceptionally beautiful, or both. The many pictures of Marginella that followed were also of choice and exceptional specimens.

Milton Werner,
Recording Secretary.

SHELL GIANTS

An analysis of the "World Size Records" listed in Wagner and Abbott's STANDARD CATALOG OF SHELLS (1977, Amer. Malacologists, pub.) reveals some interesting data, and tends to discredit some popularly held notions such as the supposed rivalry for "world's largest gastropod" between the Australian *Syrinx* (=*Megalotractus*) *aruanus* and the Florida "Giant Band Shell" or "Horse Conch," *Pleuroploca gigantea*. Apocryphal tales of 8 or 10-inch-long *Oliva porphyria*, or of *Terebra maculata* "over a foot long" are not borne out by existing records. Perhaps such shells are hidden away in older, unmeasured collections. The author suspects that anyone with a large collection who takes the time to do a bit of measuring may turn up new length records.

Presumably, everyone knows that the largest *mollusks* are probably to be found among the "Giant Squids" (*Architeuthis* species), which may reach or exceed a length of 60 feet, but, as these do not have conventional shells, they are disregarded here. The lengths quoted below and in the Catalog are of shells, not of the molluscan animals.

First in size among shelled mollusks is, of course, the "Giant Clam," *Tridacna gigas*, at a few millimeters short of four and a half feet. Other related species reach lengths of from 13 to 16 inches. Those exceeding 12 inches are:

Tridacna gigas	....53.89"
Hippopus hippopus	..16.65"
Tridacna squamosa	..16.06"
Tridacna maxima	...12.95"

The next largest group, perhaps surprisingly, are the Pinnidae or Pen Shells, with *Pinna nobilis* at nearly 2½ feet, and *P. rugosa* at nearly 2 feet in length, as follows:

Pinna nobilis	...29.53"
Pinna rugosa	....23.23"
Atrina maura	....16.61"

The title of "Largest Gastropod" appears to belong indisputably to *Syrinx* (=*Megalotractus*) *aruanus*, at just over 28 inches. Two other species of Melongenidae exceed a foot in length, as follows:

Syrinx (=*Megalotractus*) *aruanus*	...28.09"
Hemifusus colosseus	...............15.26"
Busycon contrarium	................14.63"

Next in line is our Florida shell, *Pleuroploca gigantea*, with two other fasciolarids in the "over a foot" category:

Pleuroploca gigantea	...23.00"
Pleuroploca princeps	...15.91"
Fusinus salisbury	......12.07"

No other mollusk approaches two feet in length, but quite a few exceed a foot. The next two families are tied for maximum size. The Tritons (Cymatiidae), and particularly the genus *Charonia*, constitute one of these groups, as listed below:

Charonia tritonis	....19.00"

Charonia lampas	15.57"
Charonia variegata	14.13"

The other family is the Volutidae, of which one species of "Baler" or "Melon Shell" equals the "Trumpets" in size. In fact, the largest Volutes tend to include many of the species in the genera *Melo* and *Cymbium*:

Melo amphora	19.00"
Adelomelon becki	17.91"
Melo miltonis	17.52"
Melo umbilicatus	16.69"
Cottonia nodiplicata	15.59"
Melo melo	14.25"
Cymbium glans	14.25"
Melo aethiopica	13.70"

Other species of *Melo* (*M. georginae*, for example) probably should be added to the list.

The largest and, really, the only *large* Chiton is *Cryptochiton stelleri*, reaching 18.50" in length.

In the same size class, but not as well known, is a large "Worm Shell," *Siliquaria ponderosa*, at 18.39". Other "Worm Shells" of aberrant genera such as *Kuphus* probably exceed this length, although not listed.

The remaining mollusks which exceed a foot in length are not very numerous. They include a few members of the families Cassidae, Strombidae, Turbinellidae, Ostreidae, Muricidae, Spondylidae, and Bursidae, in that order. A list follows:

Cassis madagascariensis (form *spinella*)	16.14"
Cassis cornuta	15.24"
Lambis truncata	16.00"
Strombus goliath	14.49"
Strombus gigas	12.63"
Tibia fusus	12.13"
Turbinella angulata	14.37"
Crassostrea gigas	13.54"
Ostrea laperousei	13.54"
Chicoreus ramosus	12.87"
Spondylus varians	12.73"
Bursa bubo	12.55"

This completes the list of species recorded at a foot or more in length. An additional 65 species, including 15 additional families, reach lengths of between 8 and 12 inches, but a list of these would unduly lengthen these notes.

"World Size Records" are apt to be ephemeral, with new records being continuously added. Nevertheless, it is unlikely that the overall picture is going to be substantially changed, and it is apparent that really large shells make up a very small minority of known species. The approximately 100 species exceeding 8 inches in maximum length constitute no more than two tenths of one percent of even the most conservative estimate of valid mollusk species.

At the other extreme data is less available, but there are species maturing at less than one millimeter in length, and the vast majority of all species are small, a fact which might not be apparent to the beginner. The concentration of popular literature, shell shows and amateur collectors on a few families of larger shells tends to obscure the fact that Cowries, Cones, Volutes and other "prestige" groups make up only a tiny fraction of the known species of mollusks.

Earl H. Reed

Earl H. Reed, Assistant Director
Springfield (Mass.) Science Museum

RUTH H. FAIR

We were sorry to learn that Ruth Fair died on June 21, 1978, after months of illness.

Many of our members are familiar with her publication THE MUREX BOOK, an illustrated catalogue of Recent Muricidae, published in 1976 in Honolulu.

Mrs. Fair had been a resident of Houston, Texas, for the past two years. She was a member of the American Malacological Union and of the Houston Conchological Society.

Our sympathy is extended to her husband, Jim.

MEDICINE AND A MARINE INVERTEBRATE

(Extracts from an article by Frederick C. Pearson III, associate professor of biology at Rhode Island College, in MARITIMES 22 (2) 4-6, May, 1978, published by the Graduate School of Oceanography, U.R.I.)

The horseshoe crab, Limulus polyphemus, has roamed the coastal waters of North America from Nova Scotia to Yucatan for some 200 million years. Although this animal has not evolved significantly during this period, it is found today in great abundance in its original territory and has outlived most of its contemporaries to earn the name -- "living fossil."

Each spring the horseshoe crabs migrate to the warm waters of bays and estuaries, and great numbers of pairs swim to the shore where the female excavates a nest in the sand, near the high water mark, for deposition of her small, spherical, pea-green eggs. The eggs are promptly fertilized by the male, the nest is covered with sand and the eggs incubated until the larvae are released on a subsequent flood tide.

Researchers have found the horseshoe crab to be an ideal model to study certain aspects of the nervous and circulatory systems. More recently they have found that an extract of horseshoe crab blood cells can be used to detect extremely small quantities of endotoxins, one of the major components of gram-negative bacterial cell walls. When even very small amounts of endotoxin enter the blood stream they can make a human being ill and may even result in death. Thus it is important to detect these substances in various body fluids or in contaminated pharmaceutical products that are injected into the body.

Although the Food and Drug Administration has yet to sanction this method as a routine diagnostic test for endotoxin, most researchers believe it is up to 1000 times more sensitive at detecting endotoxin than the rabbit test currently approved by the FDA. The Limulus Lysate Test (LLT) is capable of detecting...the presence of bacterial endotoxin within one hour after the sample is taken from the patient.

The horseshoe crab blood is blue resulting from a copper-containing pigment that functions in respiration. By inserting a hypodermic needle through a muscular junction between the cephalothorax and abdomen into the cardiac chamber, the blood and its amoebocytes (amoeba-like cells), the only circulating blood cells in the horseshoe crab, are withdrawn into a 250 milliliter centrifuge bottle containing an anti-clotting agent. The crabs are returned to the sea unharmed.

We have cultivated horseshoe crab amoebocytes successfully in special cell culture glassware using a modified basic growth medium. If limulus lysate can be produced from amoebocytes cultivated in the laboratory...the uncertain process of collecting horseshoe crabs during a relatively short season would be eliminated...and the danger of their future depletion would be avoided...At present, the quality of lysate may vary seasonally and its potency may vary from one group of horseshoe crabs to another. Despite improved techniques the level of standardization of the lysate potency falls short of that which could be obtained in laboratory cultivated cells. In fact, perhaps the largest unresolved question surrounding the LLT and FDA approval for routine diagnostic use is standardization from its production to its final clinical application.

DISCORD IN PARADISE, or, Where Angels Fear to Tread

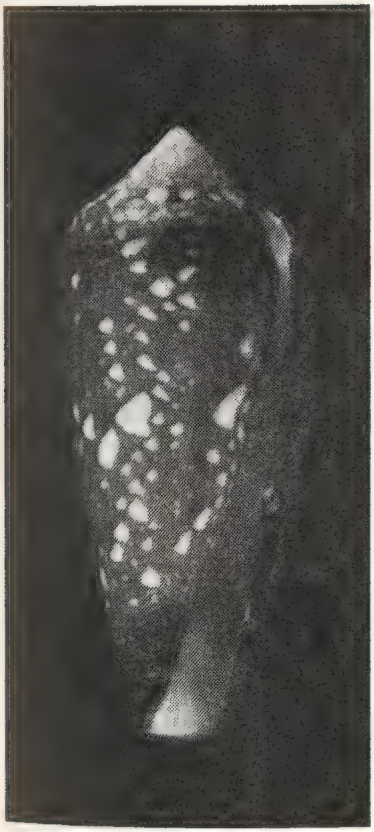
Robert H. Janowsky

I take the liberty of borrowing my title for this essay from a series of articles published at intervals in this periodical by its founder and consulting editor, M. Karl Jacobson. In his most interesting and entertaining articles Mr. Jacobson has brought to our attention some of the follies, foibles and malacological arguments that have taken place in the past. I feel that the title is justly applicable to the subject of this paper, also, and with the addition of the subtitle can serve as a resume of my feelings toward some recent work done in the malacological field.

At the present time there seems to be a headlong rush to publish new names for shells almost as fast as our improved collecting techniques can bring the shells out of the water. Where once it was the fashion to have a species one has discovered named (by a recognized authority) after oneself, it is now apparently the mode to name the shell yourself. I do not intend to demean the work of any particular author nor do I intend to use this essay to refute the work that has been done. What I do wish to illustrate is the danger and disservice resulting from this kind of work. The writers who are doing this type of work have not, I feel, adequately researched their subject and have in a great number of instances created needless and useless taxonomic entities which unfortunately must stand as part of the literature. I really do not believe that there is any necessity for giving a new name to a shell that is quite obviously Conus striatus. Linne established the name for this shell in 1758. No one can convince me that a shell differing in only a very few respects from what we know as Conus striatus requires a different name.

I will just briefly point out the flimsy support that is given to "prove" the "new species." We read: "It differs slightly in shape greatly in color from what we call Conus striatus Linne. It also has a different texture." And, in case you are not already convinced, the clincher is that "the soft parts of the animal are of a different color." It is not too difficult to refute all of the above points with only the simplest of arguments. Many times we find vast differences in the same species of shells in size, color, and texture. Anyone familiar with shells can, with a little thought, put together a sizable list of shells of the same species which for all practical purposes do not resemble one another. Do you want better examples of this than the prosaic Melongena corona Gmelin 1791, or the equally varied Thais lamellosa of the same author, or, closer to the issue at hand, Conus magus Linne, 1758? I can not here get into the subject as to why these marine shells vary so greatly -- whether the variations are caused by factors in the mollusk's environment or in its genetic makeup is not the issue; suffice it to realize that shell structure can vary greatly in a given species. One need only look around to put down for all time the point that the animal differs in color. Are not color differences quite common in nature, in plants and animals including our own species Homo sapiens? Why, then, must a species of shell be restricted to only one color animal? We always seem to get into difficulties when we try to impose our own narrow views on living things that conform to natural laws that we do not completely understand.

The illustrated specimens do not represent the most flagrant example of taxonomic "manhandling" that has occurred in the past few years. I reserve that distinction for two contemporary authors who are currently in contention as to which of them first named a "new species" of Conus which is in fact a rather well known (but hitherto unnamed) form of Conus mercator Linne, 1758. Rather, I choose to use Conus crocatus Lamarck, 1810 as an example because it is a species that has been much in evidence in the other shell journals of late. The slender form with the greater amount of markings on its body whorl is quite typical of what we expect of this species. The species has traditionally been a rare one, but one that has been reported from a great number of localities including the Philippines, Samoa, the Solomon Islands and New Caledonia. Last year divers working with hookah rigs (i.e. a setup where air is pumped to the diver by a surface-mounted compressor through a flexible hose) in the waters off Raya Island, Thailand, began to find specimens of a Conus like the wide-shouldered specimen pictured here. Immediately a great hue and cry was raised -- here was a new species! When the great similarities between this shell and the somewhat more familiar Conus crocatus was pointed out, the shell next became Conus lamberti Souverbie, 1877 and was sold under that name. The point that it could not be anything as trite as *Conus crocatus* was supported by the fact that *Conus crocatus* had not before been found in Thailand and that this shell if not a new species then must be a terribly rare species. The fact that the shells bears only a superficial resemblance to *C. lamberti* did not for a moment deter those anxious to sell the specimens they found. One very advanced collector had the ability to discern that the shell was in fact NOT *C. lamberti* (but unfortunately not the ability to recognize that it IS *C. crocatus*) and went to a great deal of effort to publish the description of this shell with the new name of "*Conus thailandicus*." I shall once again step into the role of Devil's Advocate and point out that the subadult and juvenile specimens of "*Conus thailandicus*" that I have been able to examine have had the same shape(which is considered the chief means of separating this shell from *C. crocatus*) as the slender specimens that we usually see. I have also seen somewhat smaller but nonetheless wide-shouldered specimens of *Conus crocatus* Lamarck from Samoa and from New Caledonia. The second point of difference, the greater or lesser degree of patterning on the body whorl, does not even require refutation; anyone familiar with tent-patterned *Conus* knows that they can vary tremendously. Given the above two points it then becomes somewhat clearer (to me, at least) that two possibilities exist: that what we have been seeing are juvenile specimens of *Conus crocatus*, or that *Conus crocatus* exists in two rather distinct forms. Since the initial premise is rather unlikely we then must almost accept the second contention by default.



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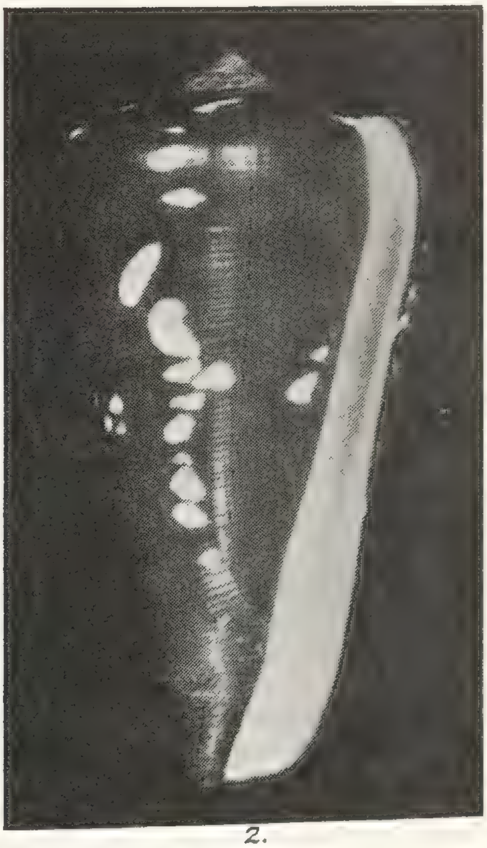

2.

CONUS CROCATUS Lamarck, 1810
1- 47mm specimen from New Caledonia
2- 52mm specimen from Raya Is., Thailand

If you carry nothing more away from this essay than the resolution to look more carefully at specimens presented to you as new species of shells, then I consider the time I spent in writing it well worthwhile. If I have encouraged anyone who wishes to publish a new species to make sure that the background research to support the new species is thoroughly done, then I consider that I have succeeded in my intent.

(The accompanying photographs are by Robert Janowsky of specimens from the collections of William Bledsoe and R. Berthe.)

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ROOM 426, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, FEBRUARY 11, 1979, at 2:00 pm

PROGRAM: A SHELLING TRIP TO THE PALAU ARCHIPELAGO (a color slide presentation) by Dr. John Bockelmann.

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AKIBUMI TERAMACHI

In connection with Mr. Teramachi, the Japanese newspaper, "The Yomiuri," reported as follows:

> Mr. Akibumi Teramachi, conchologist and advisor to the TOBA Aquarium, died of Lung cancer in Kyoto, Japan, at the age of 80, on December 6, 1978.
>
> He studied painting in Kyoto. At the age of 24 he suffered TB and went to Wakayama Prefecture where he became attracted by seashells. Mr. and Mrs. Teramachi had no child.

I really do not know how many new species have been dedicated to him and to Katsu Teramachi (his wife). Among the most famous shells are:

Teramachia tibiaeformis Kuroda, 1931
Perotrochus teramachii Kuroda, 1955
Latiaxis teramachii Kuroda
Coralliophila akibumii Kira, 1962
Cypraea (*Schilderia*) *teramachii* (Kuroda, 1938)
Cypraea (*Gratiadusta*) *katsuae* Kuroda, 1960
Endemoconus teramachii Kuroda, 1956
Akibumia flexibilis Kuroda & Habe, 1959

Masao Tabakotani

ANNUAL SHELL-SOCIAL APRIL 8th

It's time to prepare for the auction at our annual party. Start now to scour your collection for duplicates, surplus literature, any other items you would like to donate. Remember, one man's duplicate is another's prized exhibit.

Dr. Harold Sussman is this year's auction chairman. Please bring your contributions to him at the meetings, or, if you live in Brooklyn and are nearby, you may bring them to his home at 4523 Avenue H.

The NEW YORK SHELL CLUB has just completed its 30th year, and the anniversary will be celebrated at the April party. Do help its success with your donations.

ADDITIONAL SHELL SHOW DATES

(See also NOTES 247, p.2)

February 9 - 11	Sarasota Shell Club Shell Show at Exhibition Hall, 801 North Tamiami Trail, Sarasota. For information contact Louise Danforth, 2829 Terry Lane, Sarasota, Florida 33581. (813) 921-3453
February 10 - 12	Fort Myers Shell Club Shell Show at Ramada Inn, 2220 First St., Fort Myers. Information: Mrs. Lester Greene, 6203 St. Andrews Circle, Fort Myers 33907. (813) 936-0741
February 15 - 18	St. Petersburg Shell Club's 32nd Annual Shell Show will be held at a new location: The National Guard Armory at 3601 38th Avenue South, St. Petersburg. Information: Mrs. Selma Lawson, 2600 Pass-A-Grille Way, St. Petersburg 33706. (813) 360-5453
February 16 - 18	Naples Shell Club will hold its Shell Show at the Central Mall, Goodlette Road, Naples. Information: Robert M. Grab, 608 16th Avenue South, Naples 33940. (813) 262-6840
March 1 - 4	Sanibel Shell Club's 1979 Shell Show will be held at the New Sanibel Community House on Periwinkle Way. Information: Anne Joffe, 1163 Kittiwake Circle, Sanibel Island 33957. (813) 472-3151
July 28 - 29	Jacksonville Shell Club's Annual Shell Show will be held at the Beaches Flag Pavilion, Jacksonville Beach. Information: Allan Walker, 1036 Mantes Avenue, Jacksonville 32205. (904) 781-1553

Additional information on the shows announced in NOTES No. 247:

The Broward Shell Club Show of February 2 - 4 will be held at the Recreation Center in Pompano.

The Palm Beach County Shell Club Show of February 16 - 18 will be held in the West Palm Beach Auditorium. (From JAX SHELL-O-GRAM, December 1978.)

INTEREST IS GROWING for a Shell Show by the New York Shell Club. We will look forward to reports by Vice-President Fred Cannon. Meanwhile we would appreciate your comments.

GORDON NOWELL-USTICKE

(See also NOTES 247, p.1)

Gordon Usticke, who died in St. Croix September 25, 1978, was born on September 9, 1894 at Wirksworth, Derbyshire, England. Studied engineering at Cambridge, England, and was in France in the First World War.

He came to New York in 1920 on his way to New Zealand where his brother still lives, but stayed on in New York instead. Worked first as an engineer and then into stamps. Sold "Stanley Gibbons" in 1955 and moved to St. Croix in December 1955 with his wife Karin (Bibs) whom he married in 1949. She was born in Denmark on the island of Ais on October 19, 1913. She died New Year's eve 1964.

His catalogue of "Rembrandt's Etchings, States and Values," was published in 1967. His shell books were "A Checklist of the Marine Shells of St. Croix, U.S.V.I. date 1959; "Caribbean Cones from St. Croix and Lesser Antilles," 1968; "Supplementary Listing of New Shells, Revised Edition," 1968-1971.

He is survived by his brother, Stanley, in New Zealand, a sister-in-law, and nieces and nephews.

Tove Duus
St. Croix, U.S.V.I.
November 30, 1978.

THE USTICKE COLLECTION

William E. Old

A few weeks after Gordon Usticke's death we received correspondence from the estate asking if the American Museum would be interested in having the collection (we were) and that "a recent inspection of his shell collection indicates that it cannot be shipped without considerable expense as it is extremely voluminous and not in a form readily transportable.

"If the Museum is interested in his collection, would it be possible for a representative of the Museum to come to Christiansted, and make an inspection of the collection on the premises and advise us as to whether the Museum would be interested in it?" And a few days later (before they had received our reply), another letter arrived stating, "Mr. Nowell-Usticke's home is to be sold and his shell collection must be removed from the premises quite soon. My inspection convinces me that the collection itself is in no shape for transportation and that unless skilled personnel are in charge of the packing there will be a great deal of confusion and damage in its transmittal. The transportation itself presents no problem as we have direct non-stop flights to New York, but the labeling, packing and handling will require supervision and direction beyond our capabilities. It would appear that there may be a great deal of duplication in the exhibits and there are perhaps some rare and valuable shells which the Museum may have no use for and which might be of sale value to the estate. For these reasons we are in need of expert counsel and advice."

Then, early in the week of November 13th, we received a phone call from St. Croix, informing us, "Mr. Usticke's house has been sold, and the auction of the household contents takes place next Saturday. If you want any of the shells, you should make arrangements to get them out of there before then."

Thus, Wednesday morn found me on the 8 a.m. flight bound for St. Croix. And, at 1 North Street, I was shown into the shell house where I found four rooms of shells! Two rooms contained specimen shells, arranged in cabinets of drawers, and several glass cabinets contained displays of large shells, mostly of Caribbean origin. The remaining two rooms contained cartons and file cabinets of duplicates (such as he frequently brought to AMU conventions for give-aways). The auctioneer had numbered the cabinets themselves, which were to be sold at auction. The trustee told me, "Since you seem most interested in the things in the drawers, start with those, and leave the big shells for the auction."

Of prime interest to the Museum was the preservation of the types. In his publications, Mr. Usticke had proposed some 100 - 120 new taxa, and in one of his papers (1971) he had stated, "All holotypes are at present segregated in the Nowell-Usticke collection, where they may be inspected. It is my intention to deposit these later in a mainland museum."

First I located and packed the "types." As I had brought along copies of his papers, I knew what to look for. Once the types were accounted for, I began to open drawers and check over the rest of the collection. Save for one Riker mount of Florida Liguus, all of it was marine, and with the accent on Western Atlantic shells. Most Caribbean shells were represented by extensive suites and sets of growth series of a given species. Gordon had been on virtually every island in the West Indies, and had picked up shells to prove it. While many of the shells were beach collected, they were well documented and are scientifically valuable for the locality data.

Many of the better shells as well as the delicate ones were packed to be brought back to New York: Chitons, scaphopods, Epitonium, Conus, Muricidae, Calliostoma, marginellids, Mitra, Trivia, Janthina, volutes, etc. His collection of "limpets" was superb, as were his minute shells, such as Tricolia, Caecidae, Melanella, and other almost microscopic shells, housed in tiny plastic boxes.

Of bivalves, some of the fragile, rare, and small ones were selected for special handling: Spondylus americanus from Martinique, magnificent Pinna carnea and an enormous specimen of Pinna rudis (from Crete) were hand-carried back, along with a Riker mount of rare Florida Liguus.

For years he had visited Florida, and there were dredged shells aplenty from Tom McGinty, Jim Moore, Dan Steger, and Jim Donovan. About a decade ago, when Nick Katsaras and Tony D'Attilio handled the Grunzig shell collection, Gordon had sent in the winning bid for the specimen of Conus bullatus. I found it with Grunzig's and Nick's labels still accompanying it; now it "comes home to roost."

In addition to the five cartons and suitcases of specimens brought back on the plane, twelve more cartons of shells containing Strombus, Thais, Cassis, naticids, Turbo, Nerita, Astraea, Turritella, Bursa, Cymatium, Vasum, Oliva, etc., are being sent via sea freight.

A BLIND SHELL COLLECTOR

Charles Hesselbach sent us an item from the "Princeton Alumni Weekly" of May 22, 1978 on the career of the blind malacologist, Geerat Vermeij, born in Holland and blinded by glaucoma before his fourth birthday. M. K. Jacobson reported on Dr. Vermeij in the November, 1976 issue of NYSC NOTES (No. 226, p. 2). The following excerpts from the "Princeton Alumni Weekly" give further information on the work of this amazing man:

Since majoring in biology at Princeton and receiving a doctorate from Yale, Geerat Vermeij, the professor of zoology and biology at University of Maryland, has made five trips around the world to collect shells. He catalogs the specimens, measures them, and records their features in large looseleafs with a Braille typewriter. At the age of 31, he is already a world authority in malacology.

In his years of study he has concentrated on the difference between fresh and saltwater shells, and on the climatic and geological history of the oceans. (For an example, see the reference in "Malacological Article of the Month," below. -Ed.)

The malacologist regards his blindness as nothing more than a "nuisance," and his lifestyle bears that out. His personal Braille indexing system allows him to conduct his research basically unaided. Although the colors of shells are sometimes of importance (and he does remember color), he can ask his colleagues to provide descriptions. Vermeij types his own papers and books, of which he has published several, the most recent being "Biogeography and Adaptation: Patterns of Marine Life," which Harvard University Press is bringing out this fall. And while his research is important, the scholar is also a teacher. Every week he gives a lecture to the 250 students who take his sophomore-level zoology course at Maryland's College Park campus.

MALACOLOGICAL ARTICLE OF THE MONTH

Open coiling, planispiral coiling and umbilici detract from shell sturdiness and were commoner among Paleozoic and Early Mesozoic gastropods than among younger forms. Marine communities have not remained in equilibrium over their geologic history and biotic revolutions made certain modes of life obsolete and resulted in other adaptive zones becoming newly occupied. This is the subject of Dr. Geerat J. Vermeij's paper, "The Mesozoic marine revolution: evidence from snails, predators and grazers" in Paleobiology _3_: 245-258, Summer, 1977.

Henry D. Russell

AMATEUR LAND SHELL CLUB

Both professionals and amateurs will welcome the formation of a shell club devoted to studying, collecting (in moderation), and conserving land mollusks of the world. The need has become apparent in recent years, and opportunities for more research on and protection of land snails will now be enhanced by this newly formed club. Malacologists can be assured of assistance in obtaining specimens and field information from the growing legions of land shell enthusiasts, and amateurs will welcome help from knowledgeable malacologists. To join, send $5.00 (U.S.) or $6.00 (foreign) for annual dues to the president: Fred R. Cannon, Jr., 74-10 35th Avenue, Jackson Heights, New York 11372. (Telephone: 212-639-2283.)

NAUTILUS 92 (4)

MIAMI BEACHCOMBING

Harvey Frajlich

The recent dredging by the Corps of Engineers to extensively widen Miami Beach has been a pleasant bonanza to collectors for the past couple of years. Work is presently progressing southward from about 70th Street and is to eventually extend to Government Cut at the southern tip of Miami Beach.

During my last visit, for a couple of weeks in November of last year, I found collecting profitable from 75th to 85th Street around the Holiday Inn where low "cliffs," about 3 to 4 feet high, had formed due to surf action on the newly dredged fill of the beach. At high tide numerous shells were exposed as waves hit and could just be plucked from the strata. Most of these specimens were excellently preserved. Mostly *Oliva reticularis* and *Conus spurius* were found, which, together with *Strombus alatus* and juvenile *Busycon contrarium*, were the most likely species to be encountered.

At low tide, if one had a sharp eye and quick hand, lots of the more sturdy shells could often be snatched from the surf. These included the above species as well as *Latirus mcgintyi* (usually considered scarce), small *Cassis*, *Phalium*, and *Cymatium*. Also, I looked around coral rubble for stuck shells, and in beach drift of shell rubble which often includes intact smaller species: I collected small *Conus floridanus* (½"), *Terebra dislocata* (1½"), *Murex rubidus*, *Cypraea cinerea* and numerous others.

All together I collected about 50 species of marine gastropods on Miami Beach and observed about 10 others in the possession of other beachcombers. I was fortunate enough to encounter several scarcer species including the long sought for *Oliva reticularis fasciolata* (one solid brown and two brown-banded), a *Colubraria lanceolata* and a *Murex cabriti*. The surprise of my beachcombing expeditions was a good specimen of *Mitra florida*, 1½" and only slightly chipped -- somewhat far north for a species usually listed as rare in the Keys.

While in Florida, and at the behest of Bob Janowsky, I visited Burry's Shell Museum at Pompano Beach. Gary Magnotte wasn't there but his wife, Rudi, extended her regards and best wishes to the membership of the New York Shell Club.

December 29, 1978

WE INVITE YOUR COMMENT

The NOTES would like to hear from you. We thought the recent article by Robert Janowsky re: new names was quite worthwhile. (See: DISCORD IN PARADISE, or Where Angels Fear to Tread, NYSC NOTES No. 248, pp. 5-7.) We would like *your* opinion, for publication if you wish, on this and other articles in our publication.

The Editors

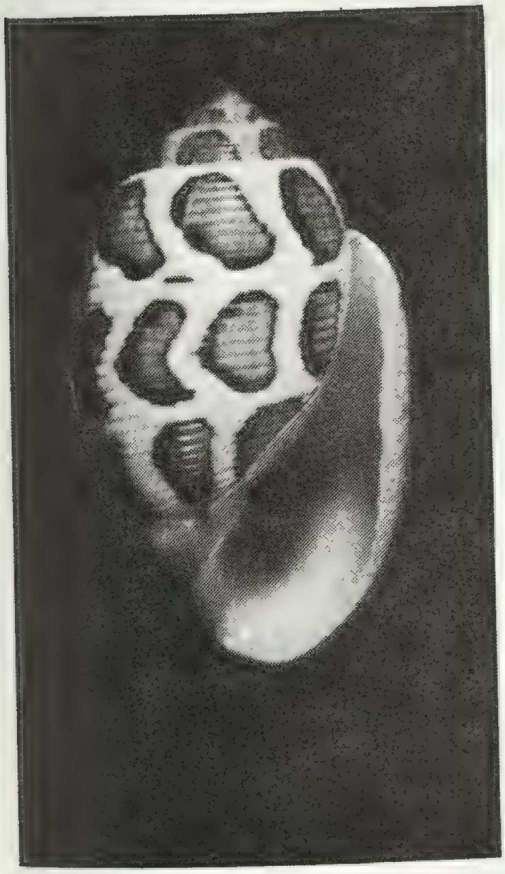
ERRATA: Heading in NOTES Jan. 1979 pages 4 & 5 should read No. 248.

ACTEON ELOISAE Abbott, 1973

Robert Janowsky

A not atypical reaction from anyone seeing this species for the first time is, "Is it real?" Precisely what my reaction was, too, when I saw a specimen of this at the time undescribed opisthobranch in 1971. I remember that Bill Old brought a specimen into a meeting of the New York Shell Club and I determined to some day have a specimen of my own.

Most marine shell collectors pay little attention to the opisthobranchs, a somewhat more highly evolved subclass of gastropods that includes the order Tectibranchia. Many members of this order have internal shells but always highly popular with collectors are the large and often very colorful members of the families Bullidae and Hydatinidae. The beautiful and familiar Hydatina albocincta Hoeven, Amplustrum amplustre Linné, and Bullina nobilis Habe are always favorites, but even the fragile beauty of these species can not compare with the very strikingly beautiful Acteon eloisae. Unlike the species listed above, whose shells are all quite thin, almost transparent, Acteon eloisae has a thick shell. Acteonids differ from most other tectibranchs in that an operculum is to be found in members of this family; that of A. eloisae is described as thin, chitinous, translucent amber.



Acteon eloisae Abbott

33mm specimen in the collection of Robert and Dorothy Janowsky

Photograph by Robert Janowsky

The most striking features of this species are its coloration and pattern. The overall color is white, ornamented with three rows of irregularly shaped rose-colored blotches on the body whorl, with the blotches outlined in black. The shell is spirally and finely grooved. Columella and aperture are white. The size of the illustrated specimen is 33mm in height and 20mm at its maximum width.

The first 8 specimens known were obtained by Dr. Donald Bosch in 1970 at Al Masirah Island, Oman, to date the only recorded locality. The species is named in honor of his wife, Eloise Bosch. The original description by Dr. R. Tucker Abbott appeared in the NAUTILUS 87 (4) 91,92 and is highly recommended reading for further information. The type specimen and several paratypes are deposited in the Delaware Museum of Natural History. The species remains today as one of the most beautiful and sought after shells -- a rarity in most collections around the world.

ISSUE No. 250

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PROGRAM: THE MURICIDAE
A look at Generic, Subgeneric and specific classification with selected illustrations by Robert Janowsky.

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ANNUAL SHELL-SOCIAL APRIL 8th

Our annual party will be held, courtesy of Dorothy Jensen, at her Broadway Dance Studio, 31-08 Broadway, Astoria, Queens. Plans are being made for an auction of shells, a speaker, a social hour, and supper.

Your contributions are needed to make the auction a success; we would greatly appreciate your donations either for auction or the bargain table. Many items in addition to shells are appropriate: literature, artifacts, stamps, jewelry, memorabilia -- anything associated with shells or shellers.

Your contributions can be (1) brought to the March meeting, or (2) mailed or brought to me at 4523 Avenue H, Brooklyn 11234, phone CL.8-2478, or (3) brought directly to the studio April 8th. If brought directly to the studio, please arrive early enough for the material to be properly displayed?

We would really like to receive your material, or your pledge of same, as much in advance as possible so that we can plan the afternoon's schedule. Already we have some shells contributed by Dr. Jane Schick; a *Lambis digitata* and a *Voluta grayi* are among many nice specimens. We look forward to your donations also.

We plan to make this party a SPECIAL, in celebration of the New York Shell Club's completion of its 30th year. We can make it a "Special" only with your cooperation.

Harold Sussman, Chairman
Auction Committee

TOKIO SHIKAMA

Dr. Tokio Shikama, professor emeritus in paleontology at National University of Yokohama, passed away on December 12, 1978 in Yokohama, Japan. He was 66 years old.

Though Dr. Shikama started his collection of seashells only after World War II, his contributions to the malacological circles in Japan are of importance. The publication of "Selected Shells of the World Illustrated in Colour, Vol. I and Vol. II" (Vol. I is co-authored with Dr. M. Horikoshi) in the early 1960's virtually triggered the active collection of foreign species by Japanese collectors.

He is also known to have described quite a few new species and subspecies of marine mollusca from the Japan-Okinawa-Taiwan area. Some of his works are controversial, as can be seen in "Hawaiian Shell News" of January, 1979, or in "Venus" (remarks by Dr. T. Habe). Regardless of these matters we will have to admit that Dr. Shikama was one of the best collectors and contributors to the Malacological Society of Japan.

Masao Tabakotani

HIGHLIGHTS OF THE DECEMBER AND JANUARY MEETINGS

At the December meeting, Vice-President Fred Cannon expressed the feeling that the Club should sponsor a shell show, and asked for discussion. The first responses pretty well cataloged the difficulties: finding a suitable facility in an accessible location, not too expensive, and the probable need for security day and night for the material on display. The Club has held only one show, and it was noncompetitive. Since it was held in the Bergen County (N.J.) Museum of Arts and Sciences, none of the above problems existed except that of easy accessibility. The nature of the response moved Fred to say that he would make inquiries in the hope of finding a suitable location, and asked that anyone who might come across a possibility write to him.

The speaker was Bill Old, whose "Reminiscences of Shell Shows Past" were based on his experiences as a judge in over thirty shell shows. He sketched the history of shell shows in this country, where they first appeared, not surprisingly, in Florida. Commenting on the subjects pictured in the slides he had taken at shows, he identified a number of prominent collectors and added informative details to pictures of exhibits. He also provided background information on several outstanding specimens, and referred to some of his criteria for judging certain categories.

* *

After extending New Year greetings, President William Walkwitz noted that this January meeting represented the Club's 30th anniversary. Celebration of the event, he added, had been scheduled for the April social meeting, where we will have more scope for a special program.

He did, however, evoke the names of "pioneer" members. Co-founders Karl Jacobson and Walter Jacobs attended the first meeting, as did Tony D'Attilio. Others who are members from the earliest months and years are Bertha Petersen, Sam Freed, Frank Hausman, Harold Feinberg, Jack McLellan, Nick Katsaras, Mathilde Weingartner and Ed Cowles. The last three were present at the day's meeting -- the 275th. Coincidentally, Karl Jacobson was heard from by way of a card extending holiday greetings to all members.

President Walkwitz announced that the Club library had been enriched with the copy of the recently revised "American Seashells" which was on display.

Harvey Frajlich announced that the many shells he had placed on the front table were for anyone who wanted them. He had collected them in Miami.

The speaker was Mart Hulswit, past president, who offered "The Confessions of a Dramalacologist: A Decade of Shell Club Involvement." The imposing title, coined by Dr. Henry van der Schalie, recognizes that Mart is an actor and a shell collector, and that the two activities have frequently mingled and enhanced each other. These occasions were part of the story Mart unwound with words and pictures. Another major theme was the influence that ten years of NYSC membership has had on his life. Not only has he formed many close friendships among members, but also among amateur and professional malacologists in other parts of the country and in Europe, with his Club membership and activities as the stepping stones.

Mart first collected shells as a 10-year-old, near his boyhood home on the Paraguana isthmus of Venezuela. He had the courage to admit that he wanted these early finds -- Nerites and Chitons -- to use as fishing bait. His real start in conchology came when movie roles took him "on location" first to Jamaica, then to Miami. This led to his buying an identification book which by chance was one that listed the New York Shell Club..... So began a trail that has led to working with a dissection microscope, shell photography, visits to many of the malacology workrooms in major institutions here and in Europe, and a warm interest in the early conchological literature.

Mart ended the selection of slides that traced these windings with a series of sunsets that indicated the range of his collecting travels. And then he noted that one of his two daughters has somehow developed an interest in marine biology as a career.

Milton Werner, Recording Sec'y

A NEW SHELL CLUB AT KEY WEST

The Key West Shell Club was organized last summer (1978) and is now ready for visitors. Monthly meetings are held on the second Monday evening (7:30 pm) of each month at the Chamber of Commerce Building near the waterfront in Old Key West.

A shell exhibit, noncompetitive, is being planned in conjunction with the Monroe County Fair in March, while frequent field trips will be made to outlying keys, offering beach, snorkel and tank collecting.

Contact Greg Curry or Mary Robb at the Shell Warehouse on Mallory Square, adjoining the Chamber building (phone: 305: 296-2051) and they'll take it from there.

KEY WEST SHELL CLUB
P.O. Box 2183, Key West, FL 33040

REVIEW:

THE NATURE OF THINGS ON SANIBEL

A Discussion of the Animal and Plant Life of Sanibel Island with a Sidelong Glance at Some of Their Relatives Elsewhere. By George R. Campbell, 1978, Press Printing Company, Fort Myers, Florida. Size 8½ x 11", 174 pp., the 79 illustrations include both drawings and photographs in black and white. Excellent index. Introduction by Cleveland Amory. Price: soft cover $9.95, hard cover $19.95, plus $1.00 postage when ordering from MacIntosh Book Shop, Sanibel, Florida 33957.

To most of our readers the word "Sanibel" is synonymous with seashells. But seashells are only on the perimeter of this sanctuary island. Naturalist George Campbell takes us from shore to shore, telling of the variety of reptile, amphibian and mammal species occurring there from the shallows to the higher ground. He describes the vegetation, and the plants that are edible and those that are poisonous. And would you have guessed that there are almost as many species of birds to be seen as of mollusks to be found?

Mr. Campbell, trained in zoology and botany, has explored the island with curiosity and, above all, interest. He relates personal experiences with beached whales, straying turtles, sharks, and with the alligators that, although tourist attractions, should NOT be fed. There are otters and raccoons and lizards and birds and delightful anecdotes. He tells where the creatures live and gives background details of many species. A chapter is devoted to "A Day in the Life of the Ding Darling Refuge" and another to "A Day in the Life of the Sanibel-Captiva Wetlands Sanctuary." He explains the distress of the structure of the island (declared a sanctuary by President Truman) and its dependent wildlife as caused by unthinking selection of sites for development.

Having this book will give the visitor to Sanibel the needed background to increase tenfold the enjoyment of even a short stay. You may either get it by mail or stop at the bookshop before you check into your motel.

Dorothy Raeihle

THIEVERY IN OLD BREVARD

Karl Jacobson reports that the Astronaut Trail Shell Club's first shell show, January 19-21, was splendid, and really enjoyable. "They had some really fine things ... and the hall was fine, too, with a high, soaring ceiling."

Unfortunately there was a bit of unpleasantness caused by an out-of-State visitor. It was reported in TODAY of January 22 how exhibitors reported shells missing and, thus alerted, saw a particular visitor handle shells "in what appeared to be a suspicious manner." It seems that the visitor collected items, put them in a tote bag, and stowed the bag in a closet, apparently for future retrieval. Fortunately all the material missing from the show was found in the tote bag, and at last report the opportunistic visitor was in the hands of the sheriff. The incident was one of added insult, as the "gentleman" had just received a $2.00 gift certificate as a door prize. Sadly, such occurrences are not unknown, as evidenced by the following announcement by the C.O.A. (See next page.)

C.O.A. ESTABLISHES A CENTRAL CLEARING AGENCY TO ASSIST IN THE RECOVERY OF STOLEN SHELLS

At the Sixth Annual Convention of the Conchologists of America, held on Long Island in September, 1978, a resolution was adopted which established a Committee designed to assist shell collectors in recovering stolen shells and shell collections.

Due to continuous increases in the value of shells, thefts are now more prevalent, and are becoming an issue for serious consideration. In several instances, rare shells have been stolen in one part of the country and offered for sale to collectors and dealers in other parts of the country at greatly discounted prices.

The Committee has devised the following simple measures which you, the collector, are advised to take, by way of advance preparation:

1. Color photograph your more valuable shells, showing dorsal and ventral views. If possible, use a close-up lens.
2. Keep accurate records concerning size of each shell in mm, location of any identifying markings, value of shell and a description of any unusual features inherent in the shell.
3. The Committee recommends the purchase of a "Brinks Security Marker," a $3.00 item which is available in most stationery stores. The marking is only visible through the use of special lighting equipment operational in most Police Dept. Burglary Units. Be sure to note where shell is marked and make sure that marking is not in an area where it can be accidentally rubbed off.

If a theft does occur, report it immediately to your local authorities and then contact the Committee Chairperson, Sally Jo Gray, either by phone or by mail (Details below). Advise her of the name of the agency to which the theft was reported and the case number assigned. Include all information pertinent to the stolen items, as well as photographs. This material will be documented and kept on file.

COA's first step will be to attempt, wherever possible, to have a description of the stolen shells listed in the various shell publications.

Finally, the Committee urges any dealer or individual, who is approached concerning the suspicious purchase of shells, to contact Miss Gray. She in turn will provide the name and address of the person from whom the shell was stolen, if the information can be matched to her files, so that the prospective purchaser can make direct contact with the purported owner of the shell or shells.

Through this new central clearing agency, it is hoped that we may assist in facilitating the quick recovery of the stolen material.

Sally Jo Gray
3943 Cornell Way
Eugene, Oregon 94705

Telephone: (503) 342-2281

CONCHOLOGISTS OF AMERICA NEWS RELEASE distributed January 2, 1979

A VISIT TO HARBOR BRANCH FOUNDATION

Morris K. Jacobson

I had not heard of this marine research station and I was surprised when, through the invitation of Paul Mikkelson, a fellow-member of the Astronaut Trail Shell Club, I was able to pay a short visit to the Harbor Branch Foundation, located midway between Vero Beach and Fort Pierce in Indian River County, Florida. I found a magnificently equipped research station with numerous engineering and science buildings located on both sides of a short canal opening into the Indian River. I was shown aboard the chief research vessel, the R/V JOHNSON, named for the president and founder of this large, non-profit organization, Mr. J. S. Johnson of the well-known firm of Johnson & Johnson, manufacturers of medical supplies, surgical dressings, etc. In a nearby hangar I saw the new submersible which, together with the R/V JOHNSON, forms the investigating team of the Foundation. There are at least two such submersibles named in honor of the inventor and vice-president of Harbor Branch, Edwin A. Link, well known in aviation circles for his work on flight simulators.

Although much of the work done at Harbor Branch is associated with marine and oceanographic studies, a large part of the facilities is given over to the engineering and construction of new and improved machines to be used by oceanographers and biologists. Other important work is associated with research in aquaculture and mariculture directed toward determining how nutrients in organic sewage can help in raising commercially valuable plant and animal crops. In point of fact, a great deal of work is being done in connection with the effects of pollution, especially in the Indian River. Each scientist has laboratory space at his disposal, and the facilities of the Science Laboratory building include a room with circulating seawater to permit holding marine organisms and their larvae for observations in the laboratory.

I was chiefly interested in the present Harbor Branch project of producing a thorough investigation of the biology of the Indian River. Mr. Mikkelson is associated with this study as a malacologist and I was fascinated when he took me to Foundation Museum where the animals -- including numerous lots of mollusks -- are stored for future study.

Besides the biological and engineering work, the Foundation is also interested in marine archaeology. It participated in the recent attempts to locate and raise the wreck of the Civil War battleship, the U.S.S. MONITOR, from its grave off the coast of North Carolina, where it sank in the course of a violent storm.

I have always been interested in the many marine study stations which dot our coasts, and was delighted to learn of and to visit this superbly equipped Harbor Branch Foundation.

NYSC MEMBERS HONORED

We call your attention to the January issue of The NAUTILUS (Vol. 93, No. 1) and the lead article by William K. Emerson and Anthony D'Attilio: SIX NEW LIVING SPECIES OF MURICACEAN GASTROPODS. Of the six new species described, the authors have named two in honor of NYSC members. The first of these is *Pteropurpura benderskyi*, named for our long-time member Israel Bendersky of Forest Hills. The small, tan to dark brown muricids were dredged off Luanda, Angola, Africa. The authors remark: "Until the discovery of this new species, only one living representative of this genus was known to occur in the Atlantic Ocean." ... Pteropurpura bendersky "differs from Pteropurpura bequaerti (Clench and Peréz Farfante, 1945), which ranges from North Carolina to the Dry Tortugas, in several characteristics (see comparative data in table 1). The two taxa clearly represent twin species, or cognates, separated by the present expanse of deep water of the Atlantic Basin."

The holotype of Pteropurpura benderskyi measures 23mm and is in the American Museum of Natural History. It was dredged in 50 meters. Two paratypes were dredged in 80 meters. (Pages 2-4, figs. 1, 2.)

The description of Murex (Pteropurpura) bequaerti was published in JOHNSONIA, Vol. I, No. 17, p.40, pl. 21, figs. 1 & 2, May, 1945.

The second species is Favartia dorothyae, named in honor of Dorothy Janowsky, one of our directors and a very active member. The species was obtained in tangle or gill nets in about 30 meters off Punta Engaño, Mactan Island, Philippines. The black and white photographs cannot do justice to this beautiful little species as "The shell color ranging from warm-white to carmine with the early whorls golden-hued; characteristically with the columella, the dorsal and ventral sides of the canal, and the base of the body whorl all strongly colored a rosy pink." In their remarks the authors point out that the "distinct apertural coloration and delicate frostlike sculpture may be easily distinguished from" (and they describe the differences in characters) "the following cogeners: F. marjorae ... F. balteata ... F. salmonea ... F. rosea ...."

The holotype measures 15.9mm and is pictured on page 3, figs. 3, 4. It is in the collection of the American Museum of Natural History as are three paratypes. One of the paratypes is pictured on page 4, figs. 15, 16. Text of description: pages 5, 6.

D. Raeihle

MALACOLOGICAL ARTICLE OF THE MONTH
(Re: Diet of muricids)

Dr. J. D. Taylor discusses the "Habitats and diet of predatory gastropods at Addu Atoll, Maldives" in an article published in the Journ. Exp. Mar. Biol. Ecol. 31: 83-103, January, 1978.

Of the 50 predatory prosobranchs, the muricids were found to be the most diverse and abundant, with 18 species represented and feeding on other mollusks, polychaetes, sipunculids, and small crustacea. In the intertidal zone epifaunal mollusks are the main food, while in the shallow sublittoral zone polychaetes and sipunculids are chiefly fed on.

Henry D. Russell

HAVE YOU SENT IN YOUR QUESTIONNAIRE, WHICH WAS ENCLOSED WITH YOUR LAST ISSUE OF "NOTES?" We'd really appreciate having it, so that (1) we can plan future programs, and (2) get on with a new roster.

SOME NOTES ON CONUS DUSAVELI H. Adams, 1872

Robert Janowsky

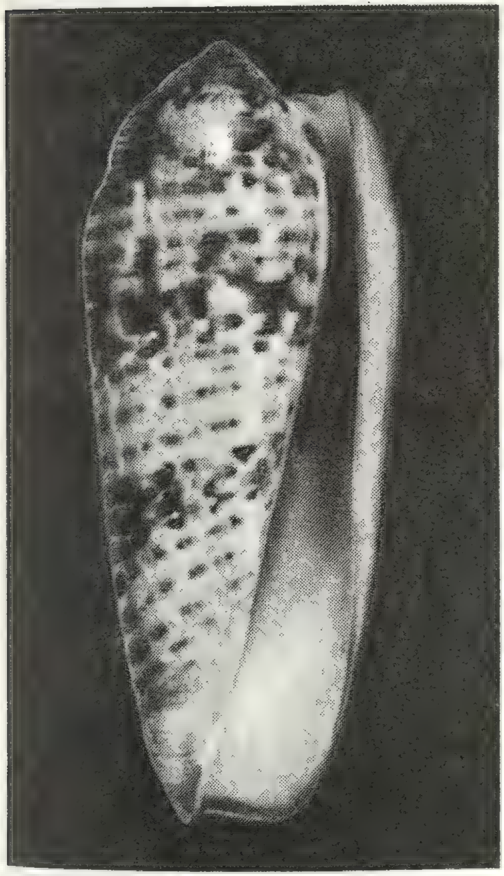
This very rare and very beautiful species of Conus has long been an enigma. Until a few years ago it was known only from the type specimen which was deposited in the British Museum with Mauritius as the locality data. It seemed almost inconceivable that a shell this large and this distinctive could remain undiscovered for over 100 years. Deep water netting operations off Cebu in the Philippines have once again been responsible for the rediscovery of this very interesting species. A few specimens were brought up in these tangle nets about two and a half years ago and a very few other specimens have been taken since. In the past others were collected in waters off Okinawa but very little is known of those specimens. I have personal knowledge of one specimen (crabbed) collected by a scuba diver a few months ago. There is also a rather consistent rumor, heard from more than one source, of 13 specimens housed in a very small private museum in a rather remote portion of the island, but I can not locate anyone who has personally examined them.

Readers familiar with the illustration of Conus dusaveli in S. Peter Dance's "Rare Shells" will at once notice that the specimen pictured by Dance (which is the type specimen) and the specimen here illustrated do not bear very much resemblance to one another save,that both have a similar pattern. The type specimen is a much more slender shell, with a very much higher spire, and a much greater slope at the shoulder. For a while both Mr. Dance and Dr. R. Tucker Abbott expressed doubts that the specimens being found in the Philippines were indeed the same species as the type specimen. On his recent visit here Dance was able to examine a color photograph of the specimen here illustrated (which was in my possession for about a year) and to study the marvelous specimen in the collection of Mrs. Francis Harmon of New York City. Dance is now of the opinion, which I strongly share, that the difference in appearance can be attributed to the fact that the type specimen is sub-adult. The type specimen measures only about 2" in height while the illustrated shell (and most of the others that I have seen) have measured closer to 3" in size. It is not at all unusual for sub-adult specimens of Conus to differ from adult specimens by having spires of greater height and more acutely sloping shoulders.

The illustrated specimen is of a fully mature Conus dusaveli and measures just short of 76mm in height. Notice that the lip is, at the posterior end, higher than the shoulder (a sign of maturity), and compare with the specimen illustrated in "Rare Shells." The overall color of this shell is light caramel. The body whorl is girdled by numerous interrupted brown bands; white spots at irregular intervals give these bands a dot and dash appearance. Three heavy, dark brown bands (also interrupted) are also present on the body whorl. The aperture is yellow within, changing to white as the lip is approached. From the mid-dorsum to the lip there is a gradual decrease in color and pattern until at the lip both are virtually absent; this again is a factor that can be seen in other Conus having the same general configuration as Conus dusaveli when fully adult. The pattern and color of this specimen are less distinct than other less mature specimens that I have examined. I, in fact, awarded a "Shell-of-the-Show" award to a very beautiful (but somewhat immature) specimen in my capacity as judge at the Broward (Florida) Shell Club Show in February, 1978. Although live-collected, there was a strange pitting on the ventral surface of the shell which I have seen too in other live-collected specimens of this species.

It is very strange to note that to date not one single other specimen of Conus dusaveli has been reported from Mauritius, the type locality. Shell collecting is almost a national pastime in that country and several other very rare species have been found there in the past few years. It is very possible that this species lives at very much greater depths in Mauritius than elsewhere, but there is also the distinct possibility that the type specimen was given a mistaken locality; it would not be the first instance of shells from elsewhere being attributed to the Isle of Mauritius which was a very great port of call in sailing ship days.

Bill Old has kindly pointed out to me (and supplied a phostatic copy) the description of a new subspecies of Conus dusaveli: Conus dusaveli benten Shikama and Oishi, 1978. The authors claim that the subspecies differs in several respects from Conus dusaveli H. Adams, most notably the height of the spire, "more distinct brown spiral band or (sic) shoulder, wider axial brown threads of spire, distinct white axial threads of last whorl." With all due respect to the authors, I suggest that they have been deceived by the immature character of the type species and the fact (which they mention) that their type specimen was collected ex pisce. It is my humble opinion that no taxonomic standing should be given to this new subspecies. Shikama and Oishi's specimen has the data of Senkaku Island, East China Seas and is apparently, from their illustration, a mature specimen 78.8mm in size. The type remains in the collection of the senior author, a practice of which I, among others, strongly disapprove.



Conus dusaveli H. Adams
76mm
Photograph by R. Janowsky

The specimen photographed for this article was collected off Punta Engano, Cebu, the Philippines, early in 1977. There was no exact depth given with the shell, but one would presume that a depth of 45-90 fathoms can be attributed to it since that is the depth range the tangle nets were set during this period. The specimen is in the collection of Mr. A. Brunotto of Hacienda Heights, California.

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FOUNDED JAN. 1949

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These NOTES are distributed by mail to all members of the NEW YORK SHELL CLUB, INC. Dues: Full membership $5.50 per year, $1.50 additional for each of other members of the same family - - with one copy of NOTES per family. Corresponding membership $4.00 per year. A limited number of back issues of the NOTES are available at $.45 postpaid per single copy; also bulk rates. Items and articles for publications in the NOTES should be sent to the Editor. The corresponding Secretary should be notified promptly of any change of address.

The NEW YORK SHELL CLUB meets on the second Sunday of each month, September through June, in the AMERICAN MUSEUM OF NATURAL HISTORY, Room 426, with the following exception:

NEXT MEETING: SUNDAY, APRIL 8, 1979, at 1:00 pm

THE PLACE: BROADWAY DANCE STUDIO (Phone 212: AS.4-1503)
31-08 BROADWAY
ASTORIA, QUEENS, NEW YORK (Directions below)

PROGRAM: PARTY !! (Details below)

SPECIAL GUEST SPEAKER, DR. R. TUCKER ABBOTT

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NEW YORK SHELL CLUB'S THIRTIETH ANNIVERSARY TO BE CELEBRATED AT ANNUAL SOCIAL APRIL EIGHTH

Once again that most happy of events, our annual social, is fast approaching. This year, however, it should be noted that the festivities will mark a very special event: the Club's thirtieth anniversary. It is hoped that many members and guests will wish to attend the social and make it the special celebration it deserves to be.

Again we are most fortunate that member Dorothy Jensen has made available to us her Broadway Dance Studio, in Astoria (Directions for reaching the studio appear below.). We are most fortunate also to have as our guest and speaker the incomparable Dr. R. Tucker Abbott. The topic of his talk: "Helmet Shells and Marine Biogeography." His presence promises to contribute greatly to making the social a truly gala event.

There will be a buffet supper, preceded by a cocktail hour featuring both alcoholic and nonalcoholic beverages. And, ladies (or gentlemen), we again look forward to your contributions of those delicious cakes and cookies which provide the perfect dessert.

To defray the cost of the catered supper and other expenses, members and their guests will be asked to make a donation at the door of \$4.50 for adults and \$2.25 for children under twelve years of age (the same donation as in 1978 despite the frightful inflation of this past year!). The donations, however, will not make the social self-supporting. To avoid dipping into the Club's treasury, which must be maintained at an adequate level, it is necessary that we have a highly successful auction. Shells and related items will be most welcome for the auction or bargain table. Please remember that an item which no longer interests you might be highly valued by someone else. Many very desirable shells have already been donated for the auction, among them Lambis digitata, Voluta ebraea, Voluta dufresnei and Voluta grayi.

The party begins at 1:00 pm and the studio will be open one hour earlier to receive contributions to the auction and bargain table. Come to the Broadway Dance Studio on the second floor of the building on the corner of 31st Street and Broadway. From Manhattan take the B.M.T. subway, ASTORIA line, to the BROADWAY stop and you are there! Or I.R.T. FLUSHING line to QUEENSBORO PLAZA, free transfer to B.M.T. ASTORIA line. From Jamaica, the IND. subway to Roosevelt Avenue, free transfer to I.R.T. Flushing line to Queensboro Plaza, transfer again to B.M.T. ASTORIA train. By car: Queensboro (59th St.) Bridge to Northern Boulevard to 31st Street (under the EL) to Broadway. Or Triboro Bridge to the first exit in Queens, turn right under the EL along 31st Street to Broadway. From Long Island, take Grand Central Parkway to the last exit before the Triboro Bridge, go a short distance along Astoria Boulevard to 31st Street, turn left under the EL and proceed about six blocks to Broadway.

We hope to see you there!

William R. Walkwitz, President

HIGHLIGHTS OF THE FEBRUARY MEETING

It was announced that Ethelyn Woodlock is in the hospital for a hip operation. Since the time of her discharge was not known, it was thought best that anyone wishing to send good wishes use her home address: 15 Franklin Avenue, Midland Park, New Jersey 07432.

Two other names, with addresses, were also on the board: M. Yvan Attard, 18 Rue du Rieth, 67200 Strasbourg, France, and Mme. Ch. Adler, 14 Rue Adler, 67 Strasbourg, Robertson, France. Their letter said that they would like to establish contacts with American collectors in view of future trades. M. Attard is most interested in land shells, and Mme. Adler in marine and freshwater species.

Dr. Harold Sussman has accepted the job of coordinator for the auction at the April social meeting. Those planning to donate shells or related materials should inform him (phone (212) CL.8-2478). Since the Club's 30th anniversary will be celebrated at the social meeting, Mathilde Weingartner suggested a display of photographs of Club activities of earlier years. Anyone having slides, prints or movie footage is asked to bring it to the meeting. Historian Nick Katsaras will have the Club scrapbook available for thumbing.

The speaker was member John Bockelmann, whose subject was a shelling trip to the Palau Archipelago. The trip was arranged and led by Tom Rice, of Port Gamble, Washington, and the group numbered 13. With pictures and narration, John traced the journeyings and shelling stops. Along with scenery of considerable grandeur he included photos of flowers and shells, and local points of interest. Shelling locales were bays and beaches of Guam, Palau, and Peleliu. John also displayed a selection from the 100+ species he brought home.

Milton Werner, Recording Sec'y.

REVIEW:

No. 1 of MONOGRAPHS OF MARINE MOLLUSCA:
THE FAMILY CERITHIDAE IN THE INDO-PACIFIC
Part I: The Genera Rhinoclavis, Pseudovertagus and Clavocerithium

by Richard S. Houbrick, 1978. 130 pp., 97 pl. (3 in color), $17.50 from American Malacologists, P.O. Box 4208, Greenville, Delaware 19807. Additional pagination for loose-leaf is as that in "Indo-Pacific Mollusca."

Dr. Houbrick announces that "This is the first in a series of monographic treatments on Indo-Pacific cerithid genera (Family Cerithiidae; Subfamily Cerithiinae). In the future, I will treat the genera Cerithium Bruguière, 1789, and Clypeomorus Jousseaume, 1888." (See selected bibliography, pp. 25-28, for listing of his previous works on cerithids of the western Atlantic et al.)

In this careful study there are listed 47 fossil and living worldwide species and subspecies of which 17 are living, the living species limited to the Indo-Pacific except for Rhinoclavis gemmata from the eastern tropical Pacific. The paper is exceptionally well illustrated with photographs and charts; the photographs of the species under discussion are placed with the pertinent text. Scanning electron micrographs of the radula are included for each of the 17 living species; the operculum is pictured less frequently. Fossil records are noted wherever available.

The three color plates are particularly well arranged and illustrate (1) The Genus Rhinoclavis (33 fig., 6 sp.), (2) Variations in size, shape, sculpture and color of Rhinoclavis fasciatus (Bruguière) (17 fig.), and (3) The Genus Pseudovertagus Vignal (9 fig., 4 sp.).

Keys are provided for: Subgenera of Rhinoclavis
Living species of Rhinoclavis s.s.
Subgenera of Pseudovertagus
Living species of Pseudovertagus

Dr. Houbrick explains the new name of Rhinoclavis (Rhinoclavis) diadema, proposed for the species formerly known as Rhinoclavis (=Cerithium) nitida (Hombron and Jacquinot, 1854)(pp. 64-66, pl. 33-35), and also the new subgenus Longicerithium, type species Rhinoclavis longicaudata (Adams anddReeve, 1850), as "it is so different from Rhinoclavis s.s. or other living and extinct cerithid genera that I believe it and its precursors merit subgeneric recognition. ... (It) is one of the most distinctive and uncommon members of Indo-Pacific rhinoclavids." (pp. 85-88, pl. 58-61)

The Florida fossils Cerithium caloosaense Dall 1892 and Cerithium dalli Olsson and Petit, 1964 are put into Pseudovertagus (Cerithioclava). There is also a list of doubtful species of fossils, many of which were described from fragments.

The paper is impressive in its scope and detail, yet clearly and simply presented. MONOGRAPHS OF MARINE MOLLUSCA has made an auspicious beginning.

Dorothy Raeihle

NOTE: A new style loose-leaf binder for MONOGRAPHS OF MARINE MOLLUSCA, etc., designed to open flat, is available from AMERICAN MALACOLIGISTS (Address above).

AKIBUMI TERAMACHI

(November 5, 1898 - December 6, 1978)

A BIOGRAPHICAL NOTE

Anthony D'Attilio
San Diego Natural History Museum

During a period of about ten years I corresponded with Mr. Teramachi and exchanged specimen shells with him. Prior to my relationship with Teramachi, shortly after World War II, I had begun to exchange correspondence and seashells with Seiichiro Kinoshita. He resided at Shirama, a small resort town on a tiny peninsula at the eastern side of the mouth of the Kii Channel. It was through Kinoshita that I obtained rare species such as Conus hirasei, Conus kinoshitae, Cypraea teramachii and Cypraea langfordi. Kinoshita eventually had to devote most of his time to a small business venture, and after five or six years our correspondence petered off, although I continued exchanging material with Teramachi.

As a result of this correspondence, some interesting facts were brought to my attention regarding the shell collecting activities in Tosa Bay and the adjacent Kii Channel, on the southeastern coast of Japan. These two areas have an essentially tropical biota, but are situated at about 34° north latitude, which normally would be well out of the tropics. The tropical character of these waters is due to the movement of the Kuroshio Current, flowing northward from the equatorial stream (similar to the Caribbean's Gulf Stream).

Teramachi told me that he worked mostly with the fishermen at Tosa Bay, while Kinoshita worked with those at Kii Channel. The problem was to convince the fisher folk not to discard overboard the molluscan shells obtained in the food fish trawling activities. It was an education process that took both of them about ten years to accomplish. The fishing vessel captains were then ready and pleased to save the seashells and sell them on reaching shore where Teramachi or Kinoshita were waiting at their respective localities.

The widespread and persistent large-scale operations of commercial fishing vessels resulted in the appearance of large numbers of dredged shells on the market for collectors -- both for Japanese collectors and for sale abroad. What was even more exciting was the discovery of numerous species that proved new to science. As a result of this both Teramachi and Kinoshita were honored with many new species named for them by Dr. Kuroda, Dr. Habe, and other malacologists in Japan.

Through those years, especially between 1948 and 1960, I was in an advantageous position as a private U.S. collector to be the first to obtain many rare or uncommon species. Their prices seem ridiculously low in retrospective comparison with the inflationary value of today's dollar. In addition, the comparatively small number of dealers did not increase radically until after 1960.

In the October, 1958 issue of the VENUS, Japanese Journal of Malacology (Vol. 20, no. 2, plt. 18), there appeared a photo of Teramachi honoring him on his 61st birthday. He is dressed in Japanese fashion and stands amidst his collection of fine old bonsai plants. Although he collected a wide variety of molluscan genera, for himself his main passion was for the Volutidae. It was my pleasure to have known him.

SOME THOUGHTS ON TAXONOMY

The recent article by Bob Janowsky ("Discord in Paradise," NOTES No. 248) points up an unfortunate recent trend in systematics. The proliferation of unresearched and often invalid "new" species has begun to reach alarming proportions. Of course, most such names will eventually be disposed of by qualified researchers, and will end by cluttering up the synonymies of future monographs, utilizing paper and ink that could be put to better use, and reflecting no credit on their authors.

In the same recent period a number of cases of rather drastic "lumping" have appeared in print. Perhaps all are justified, but one wonders how "minor genetic strains," "minor gene pools," "isolated populations" and the like differ from subspecies, and where the line is to be drawn.

In this author's opinion, such controversy over species validity is less disturbing than the continual erection of new genera. To a reasonable extent, of course, such action is justified. The genera of Linnaeus often incorporated not only numerous present-day genera, but also numbers of different families! Nevertheless, the continued subdividing of genera can lead to a situation in which relationships are to some extent obscured, and the tax on the memory of all but the specialist becomes unreasonable.

The genesis of such situations, while certainly not uniform may often proceed in this fashion: the specialist researching a particular genus finds that species tend to "group" themselves into clusters of apparently closely related species. (If he is an evolutionist, he will infer related lines of descent from a common ancestor.) Some formal recognition of such profound insight is required. (Some older authors resolved this situation by setting up "group of species a." "group of species b," and so on.)

Now, a perfectly acceptable solution seems to exist in the *subgenus*, and the division into a series of subgenera would seem to provide an ideal solution. The specialist has his subgenera, the generalist may continue to use the genus, and the erudition of the researcher is adequately documented.

Unfortunately , this situation, if existing, is seldom allowed to remain. The next author will pounce upon the subgenera and raise them to full generic status (ready to be further dismembered by the next researcher to come along). It has been said that the generic "splitters" will be satisfied only when all genera are monotypic, i.e., consisting of but a single species!

There are other reasons why new genera are proposed, some much less defensible. Some have involved an undue preoccupation with one morphologic character, such as the operculum; others seem to have been based on parochial or patriotic sentiments, and some, it must be confessed, have little apparent justification by *any* reasonable standards. In the latter category would fall genera based on minor differences in shell morphology which are of specific value, at most.

It is argued that large genera are unwieldy, and that almost *any* excuse is sufficient to justify breaking them up. (As if nature were expected to neatly package species in genera of convenient size! -- but then, genera *are* primarily subjective assemblages!) It has also been suggested that large genera are favored only by amateurs who have neither the patience nor the interest to keep up with progress in understanding of complex relationships. There is, admittedly, some merit in both of these viewpoints, but it is equally true that families burdened with great numbers of poorly characterized genera are a serious problem.

It is unlikely that existing practices will change drastically in the foreseeable future. Yet it is important to occasionally review the basic objectives of systematics. While the practice of taxonomy is often complex, the objectives are simple. The species category is intended to provide names for different "kinds" of living things. The genus (and higher categories) is intended to bring together groups of similar "kinds". One emphasizes differences, the others, similarities.

This article is not intended as a criticism of any specific author, nor as a defense of the status quo. Progress in the elucidation of the protean diversity of the natural world is both inevitable and desirable. It is rather a plea for restraint, at least to the extent that changes and nomenclatural novelties be based on sound principles and adequate research.

Earl H. Reed

Earl H. Reed, Assistant Director
Springfield (Mass.) Science Museum
January 18, 1979

February 21, 1979

Mrs. Dorothy Raeihle, Editor
New York Shell Club Notes

Dear Mrs. Raeihle:

The following comments are in response to your invitation to express opinions on Mr. Janowsky's article in the January issue of N.Y.S.C. Notes, Discord in Paradise.

I must begin by saying that I agree with Janowsky in his worthwhile reaction to the making of some new species in our present time. Taxonomy is suffering an epidemic of inflationary description of taxa, caused by the lack of a prophylaxis in the methods of evaluation of characters, and shallow concepts about what constitutes a species. The problem is not new: more than a hundred years ago, Dr. Edward Gray of the British Museum called proper attention to it in the American Journal of Conchology. In Gray's time, as now, there were persons, as Janowsky put it, who do not deter of being anxious to sell the specimens they have found. The comments by Dr. Gray came on account of the acquisition of the famous Cuming's collection by the British Museum. We can be tolerant with those oldtimers who described species not even knowing of where they came, and with little characterization, because then the ideas about species were still unclear to make the author's mind function properly on that kind of work. But today, when we have ready accessibility to information, the obvious neglect of it has no excuse. All the possibilities should be considered before naming anything which can not be properly distinguished from other species or subspecies.

Taxonomy should be an art of economy, not of waste, and not controlling the facts render it very expensive. Rather than to look for differences that are aleatory, we must recognize first the similarities; to establish relations before we decide to break things apart, and give weight to the factors which control variations in color, shapes, sizes, and even structures within the genetic makeup of the species, ecological, clinal, and sometimes products of hybridization between species of common ancestry and close genetic relationship.

Another aspect of the problem is the clumsiness of certain descriptions. Included in many of them are characters which are of generic, not specific, value. To say "ovate-triangular" when all the species in a genus, or subgenus, are ovate-triangular is not only redundant, but confusing. And that can be said also of a genus in relation to the family or subfamily. Anatomical characteristics should not be evaluated beyond their importance, because it is logical to surmise that an organism can be variable internally as well as externally. Any conclusion on that respect should be taken after the research on a reasonable number of individuals, not on a single specimen, unless the differences are of a remarkable kind. The fact is that when the nomenclature is atomized we fail to recognize relationships in geographical distribution and other aspects of the complex. We know that there are not two individuals completely alike in any species (except in the rare ones which are parthenogenetic), and the range of variations can be extraordinary according to the genetic setup of the populations (*Columbella mercatoria* is a good example). When I collected *Strombus pugilis* in Yucatan, I could have said that many of them belong to the subspecies *nicaraguensis*, but the examination of a large series from different localities had shown that the subspecies does not exist as such and the differences are only clinal.

Any one who has worked in taxonomy for many years has committed such mistakes sometimes. When I revise some of the forms I named forty years ago, I realize my own shortcomings. But today, with all the information and the better defined concepts with which we work, it would be inexcusable to reach such scanty conclusions and to create spurious names.

Cordially,

J. J. Parodiz

J. J. Parodiz, Curator
Section of Invertebrates
Carnegie Museum, Pittsburgh, Pa.

OYSTER CULTURE

From the Sea to the Mountains

On the occasion of the June, 1973 meeting of the AMU at the University of Delaware we enjoyed a field trip to Cape Henlopen and a tour of the University's marine laboratory at Lewes. There we saw oyster spat (*Crassostrea virginica*), in various early stages of growth, in trays of flowing seawater. On the floor above were large tanks of algae cultures which were dripped into the trays below in appropriate amounts to nourish the baby oysters.

Since then more elaborate facilities have been built and the research has developed apace. In the June, 1977 issue of SEA TECHNOLOGY, in an article entitled "Oysters Grown in Kansas City?", Editor Larry L. Booda reported, "In 1975 the University of Delaware researchers became what they believe to be the first to successfully grow oysters and clams to market size in a system that recirculates about 75% of the seawater. Today (1977 -ed.) one experimental closed system, begun in the summer of 1976, is operating on a 90% recirculating-10% replacement cycle. This is believed to be close to the optimum and thus would be the proportion for commercial operations. ... Current state-of-the-art oysters grown at U.D. show this comparison -- a palm size natural oyster that took three years to grow matches a cultured one that required one year, and the laboratory oyster has twice as much meat. Dr. William S. Gaither, Dean of the Center, estimates that, if funding by the National Sea Grant Program is continued as requested, closed cycle oyster culture should become commercially viable in one or two years."

Now, within the time projected by Dr. Gaither, we have the following news item, sent to us by Ed Cowles, from CHEMICAL ENGINEERING of February 26, 1979:

Oyster plant far inland will use "artificial" seawater --

Marine Nutritional Systems Inc. (Denver) is building a 10-million-oyster/yr facility in Lamar, Colo., which is expected to be completed by mid-summer. While many large companies are now actively involved in aquaculture research, Marine Nutritional claims that it is the only one to be commercializing a closed recirculation system, using water that simulates all the properties of seawater.

The warm-water requirements for optimal growth conditions (about 75°F) will be met by using "waste heat" from the steam of the standby boiler of the Lamar power plant, which is adjacent to the oyster facility.

Shrimp will be a salable byproduct; they will be stocked in the tanks with the oysters to consume oyster wastes.

dr

WANTED: A SUMMER SCIENCE JOB, AND MOLLUSKS OF LONG ISLAND SOUND

"I am 17 years old and have been involved in Marine Biology and malacology for six years. I have participated in many activities involving molluscs and biology such as shell lecturing for area school systems, extensive summer courses in marine biology and an independent study course concerning the molluscs of Long Island Sound. Next year I am going to college and this summer I would like to get a job dealing with science, preferably biology. Anyone having information relating to summer employment in science please contact me: Eric Dolan, 107 Briar Brae Rd., Stamford, CT 06903, or phone 203-322-4549.

Also, I would like to purchase Long Island Sound molluscs for the independent study project. I need Acmaea testudinalis, Epitonium rupicola, Crepidula convexa, Crucibulum striatum, Eupleura caudata, Buccinum undatum, Ovatella myosotis and many more. Anyone having such shells they want to sell please contact me."

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FOUNDED JAN. 1949

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The NEW YORK SHELL CLUB meets on the second Sunday of each month, September through June, in

ROOM 426, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, MAY 13, 1979, at 2:00 pm

PROGRAM: COLLECTING EXPERIENCES in VENEZUELA and BARBADOS by Jerry Harasewych of the Delaware Museum of Natural History.

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1979 AMU - WSM MEETING

From August 5th to the 11th, the American Malacological Union and the Western Society of Malacologists will hold a joint meeting in Corpus Christi, Texas. The WSM is holding a symposium on "Life Histories of Mollusks," and the AMU will have one on "Mollusks of the Gulf of Mexico." Contributed papers will be presented throughout the week. A cash Student Award will be presented for the best paper given by a student.

One afternoon the delegates will be guests at the Corpus Christi Museum, which plans a program for us. "Shell Club Night" will also be held at the museum. There will be displays of specimen shells at the convention.

Field trips will include (a) a bay trip, (b) a SCUBA diving trip, (c) a dredging trip, (d) a land shelling trip at the Welder Wildlife Refuge, and (e) a freshwater shelling trip.

The meeting will be held at La Quinta Royale Motor Inn, 601 North Water Street. Room rates per night will be: single $26.00; double (one bed) $30.00; and double (twin beds) $34.00. (For toll-free reservation service from states other than Texas call 800-531-5900. From Texas call 800-292-5200.) Also, since we will be right in the heart of town, there will be plenty of accommodations for those who may wish to stay elsewhere.

Plan to come, and bring a friend!

William E. Old
AMU president, 1978-79

THE A.M.U.

by: William Old, Jr., President, 1978-79

The American Malacological Union is an organization devoted to the study of mollusks. Its membership is drawn from the scientific community as well as from interested collectors and amateurs. Some 50 U.S. shell clubs are affiliated with the A.M.U. According to Mrs. Margaret Teskey (1974) the organization began as an idea of Mr. Norman Lermon, an energetic and individualistic Norwegian gentleman who operated a small natural history museum in Thomaston, Maine. "In 1929 or 1930" he dispatched letters to every person of his acquaintance who was interested in mollusks. A total of 169 people sent in dues of 25 cents (!) and were enrolled as charter members.

In April 1931, the organizational meeting was held at the Academy of Natural Sciences of Philadelphia. Thus it can be called the "birthplace" of the A.M.U. Twenty-nine people attended the original meeting. Since then meetings have been held annually (skipping 1942-1945) by invitation from an institution or club.

Not surprisingly, Florida leads the list having hosted six conventions. New York is in second place with five. Four meetings have been in Pennsylvania and California, and three times in Canada, District of Columbia, and Massachusetts. A.M.U. has convened twice in Michigan, and 1978 marked the second meeting in North Carolina. This year, 1979, will be the third meeting to be held in Texas.

In 1939 the A.M.U. convened in Havana, Cuba, and nine States -- Maine, Illinois, Kansas, New Hampshire, Connecticut, Louisiana, Wisconsin, Delaware, and Ohio -- have hosted one convention each.

From 1948 to 1967 a Pacific Division of the A.M.U. held meetings in California. A new organization, the Western Society of Malacologists, was formed in 1968. In 1975 a joint W.S.M. - A.M.U. convention was held in San Diego. And from August 5 to 11th, 1979, a joint meeting will be held in Corpus Christi. See you in Texas!

The following notes on the conventions are from Florence Kuczynski:

The program for these gatherings includes symposia and contributed papers, exhibits, field trips, a banquet, and general good fellowship and professional interactions. An amateur, after her first AMU meeting, wrote: "This was my first AMU meeting, and I was half prepared for an awesome (and maybe a trifle dull) four days. To my delight, I immediately became aware of one of the unique qualities in the AMU, which not only admits the amateur to its fold, but genuinely welcomes him." (Hawaiian Shell News 22 (8):9, August 1975.)

Abstracts of contributed papers and symposia are published in the AMU Bulletin, which is sent without extra charge to all members, includes, also, a current listing of members and their special interests. In addition, members receive newsletters which detail activities of shell clubs as well as items of general interest.

From: TIDE LINES, St. Petersburg Shell Club, Inc.
32nd Annual Shell Show, Feb. 15-18, 1979

DID YOU KNOW : : that in Manhattan the East 90th Street fireboathouse and pier is being converted into a marine resource center for

New York schoolchildren? The fireboathouse will be the first resource center in Manhattan devoted to marine ecology and nautical sciences with small informal programs for elementary school children.

From: COASTLINES, March/April 1979
N.Y.S. Sea Grant Institute

HIGHLIGHTS OF THE MARCH MEETING

President Bill Walkwitz extended a welcome to Anne and Albert Taxson, who have been in Florida and had not attended meetings for several months. They will soon move to Florida, to the regret of their many friends in the New York area.

At the February meeting, Carol Andrus had reported that her daughter had promised her grade-school class that Carol would speak before the group on the subject of shells. She then informed Carol. Carol gathered her courage and fulfilled the promise. Asked how she had fared, she reported a huge success. The kids were "fascinated" and the scheduled hour stretched to three. Carol thinks the talk and the exhibits conjured up a number of new shell collectors. And she was invited, on the spot, to lead a group on a beach-exploring trip come warm weather.

The speaker was Bob Janowsky, whose subject was the difficulties and the present status of classification of the Muricidae. He pointed out that the major obstacle is that nature doesn't arrange her creatures into neatly distinct groupings, but instead creates gradations. Her blurred boundaries are further confused by what the classifier sees as anomalies - supposed distinguishing characteristics appearing in generic or familial divisions where human beings say they don't belong. One result is the constant name-changing that is such a particular affliction of muricid fanciers. Tracing the major turning points in the history of classification, Bob pointed out that in Linné's time, all marine snails having siphonal canals were considered muricids, and that the idea of the subgenus was introduced by Swainson in the 1840's. In a series of shell photos made by himself, Bob pictured representative species of genera in the subfamilies Muricinae, Muricopsinae, Ocenebrinae, Typhoninae and Typhinae. Among the Muricopsinae he showed the exquisite little new species Favartia dorothyae, named for his wife, Dorothy Janowsky. Genera that he examined in detail were Murex, Chicoreus and Pterynotus of the subfamily Muricinae, and Ocenebra, Ceratostoma and Pteropurpura of the Ocenebrinae.

Milton Werner, Recording Sec'y

SHELL SHOW DATES: CLEVELAND, PORTLAND

The Cleveland Shell Club will hold its Fifth Annual Show May 5 - 7, 1979, at the Garden Center, 11030 East Boulevard, University Circle, Cleveland. For information contact the Show Chairman: Pete Krull, 9321 Fairfield, Twinsburg, Ohio 44087. (Phone: 216: 425-8716.)

The Oregon Society of Conchologists will hold their 15th Annual Shell Show at the Oregon Museum of Science and Industry June 2nd through June 10th. For information contact Thomas S. Hale, Chairman, 347 NE 136th Ave., Portland, Oregon 97230. (Ph: 503: 253-5379)

NOTES FOR A HISTORY OF MALACOLOGY IN NEW YORK

Morris K. Jacobson

The American Association of Conchologists (AAC) was founded April 2, 1890 and gently passed from the scene about 1896. Its headquarters were at the Academy of Natural Sciences of Philadelphia. A large project of the AAC was to assemble a complete collection of the shells of America, to be deposited in the Academy. (They may still be there.) A plan to have a convention of the AAC in Chicago at the time of the World's Fair of 1893 apparently did not succeed.

There were never very many members from the New York City area among the 200 or so who at one time or another belonged to the Association, according to the two membership lists of 1890 which I have before me. In April 1890 we find the names of A. Schlehenreid of 738 Eleventh Avenue, New York, interested in Volutidae, Conidae, and Marginellidae (what happened to his collection?); William H. Weeks of 508 Willoughby Avenue, Brooklyn, who later chose Bulimus (now Bulimulus) as his special field of study; Henry Prime of Huntingdon (or Huntington?), New York who was interested in the geographical distribution of land shells; W. S. Teator of Upper Red Hook, New Jersey, interested in the Succineidae; Thomas Morgan of Somerville, New Jersey, specialty Helicidae; and Professor R. P. Whitfield and Sanderson Smith of the American Museum of Natural History. It should be mentioned that according to Rule VI of the Association every new member was required to select a special field of study shortly after he was accepted in the membership. Until 1896 there were no dues. In the April 1890 list I also find the names of students who specialized in definite geographical areas: Addie C. Appleton and Professor A. C. Apgar selected New Jersey, James Shepard took Connecticut, and Albert Bailey and William B. Marshall, New York. In the list of October 1890, just a few months later, none of these fields were listed.

In the October list, among the members, we find the following in addition to those mentioned above: Arthur F. Gray, Warburton Building, Yonkers, specialty not yet chosen; and the Reverend A. B. Kendig of 11 Hanson Place, Brooklyn, specialty Amphidromus.

Paging through the two volumes of CONCHOLOGISTS' EXCHANGE, the ancestor of NAUTILUS, I find that the Reverend Kendig used to live in Boston at 35 Dale Street and moved to his Brooklyn address about June 1887.

More information about some of these persons can be found in AMERICAN MALACOLOGISTS and SUPPLEMENT, (1974, 1975) available from American Malacologists, P.O. Box 4208, Greenville, Delaware 19807. However, the following names do not appear in AMERICAN MALACOLOGISTS and as far as we could determine nothing further is known about them. It would be of interest if any of our readers can supply any data so that in future revisions of AMERICAN MALACOLOGISTS they can be included: A. Schlehenreid, W. S. Teator, Thomas Morgan, Addie C. Appleton, James Shepard, Albert Bailey, and Arthur F. Gray.

C.O.A. NEWS : : The 1979 meeting of the Conchologists of America is planned for October at Santa Monica. CA. Their BULLETIN, now a quarterly, is under the new editorship of Richard Goldberg, 49-77 Fresh Meadow Lane, Flushing, N. Y. 11365.

SOME IMPORTANT NAME CHANGES
(*Odostomia* to *Boonea*)

Morris K. Jacobson

In an extremely important recent paper, Dr. Robert Robertson of the Academy of Natural Sciences of Philadelphia reports the results of his investigation of the spermatophores of several species of the "Odostomia." (Spermatophores of Six Eastern North American Pyramidellid Gastropods and Their Systematic Significance (With the New Genus *Boonea*. Biological Bulletin 155(2): 360-382, October 1978.) Dr. Robertson points out that previous classifications of almost all pyramidellids, especially those of the genus *Odostomia*, were based on shell features alone. These turned out to be confusing and unreliable bases for species and genus determinations. His studies indicated that the spermatophores proved to be a more useful character.

A most important discovery is that the European genus *Odostomia* differs decidedly from the species assigned to that genus in America. The differences appear in the protoconchs, opercula, mantle-organ coloration, and the morphology of the sexual apparatus. Hence the two groups of species cannot be assigned to the same genus, i.e. they are not congeneric. For this reason the genus *Boonea* is proposed for three American species, named for Constance Boone of Texas, corresponding secretary of the AMU, who provided Dr. Robertson with much valuable preserved and alive odostomioid material.

On the basis of his very convincing results, Dr. Robertson proposes the following changes in the nomenclature of these local pyramidellids:

Odostomia seminuda (C. B. Adams, 1839) becomes *Boonea seminuda*.
Synonyms include "*O*." *willisi* Bartsch, 1909, and "*O*." *toyatani* Henderson & Bartsch, 1914.

Odostomia bisuturalis (Say, 1822) becomes *Boonea bisuturalis*.
Synonyms include "*O*." *trifida* (Totten, 1834) and "*O*." *exigua* (Couthouy, 1838).

Odostomia impressa (Say, 1822) becomes *Boonea impressa*.
Synonyms include "*O*. (*Menestho*)" *beauforti* Jacot, 1921.

It is interesting to see that, in spite of the new discoveries necessitating some important name changes, Dr. Robertson observes (p. 379): "Allowing for some shell variation (such as in *B*. *bisuturalis*), they (the spermatophores) confirm the conchological characterizations of the species." and "Spermatophores support the idea that "*Odostomia*" *trifida* is synonymous with *B*. *suturalis*, and that this latter species is usually distinct from *B*. *impressa*...."

The other three pyramidellids included in the study are: *Fargoa dianthophila* (Wells & Wells, 1961) formerly "*Odostomia*" *dianthophila*; *Fargoa bushiana* Bartsch, 1909, formerly "*Odostomia*" *dux* Dall & Bartsch, 1906; *Fargoa bartschi* (Winkley, 1909) formerly "*Odostomia*" *modesta* (Stimpson, 1851).

MANY OF YOU still have the questionnaire enclosed with our February issue, No. 249. We'd appreciate it if you'd join the others by checking it over and sending it in.

CYPRAEA LEUCODON IN LOCAL COLLECTION

Congratulations are due to NYSC member Waverley Harmon who has just acquired an 80.2mm specimen of Cypraea leucodon Broderip, 1833. This excellent specimen is somewhat darker brown in color than the specimen belonging to Mr. and Mrs. H. Horn described in my article on this species in an earlier issue (NYSC NOTES No. 245.6,7). The spotting in the new specimen is also somewhat different than the spotting of the Horn's shell -- this one tends to have larger and more clearly defined spots.

The shell was collected a few weeks ago from very deep water (estimated at 150 fathoms) off Santa Rosa Island in the Philippines, in nets such as I described in earlier articles. The Harmon specimen is the only specimen that I know of in the metropolitan New York area.

Robert H. Janowsky, March 16, 1979

MUSSEL WATCH

We learn from AUDUBON Magazine of March 1979 (p. 18) that there is a "United States Mussel Watch" with 105 collection sites. It seems that Mytilus edulis, which has a wide distribution in this country and Europe, has been found to be an excellent point of study to check pollution levels. The mussels naturally take in and collect the pollutants along with the nutrients from the sea water as it flows over their gills. What is valuable is that many pollutants can be identified, and frequently the source of the pollutant can be traced.

The article refers to the work of Edward Goldberg of Scripps Institution and notes that the chemical analysis of the mussel to discover possible pollutants is considered more precise than other laboratory methods.

In NOTES No. 238.6 we reported the use in Alaska of Macoma balthica as a "Watchclam" in similar checks.

dr

MALACOLOGICAL ARTICLE OF THE MONTH
Re: Corbicula manilensis

"Effects of potassium on adult Asiatic clams, Corbicula manilensis" is the title of an article in Biol. Notes No. 98, Illinois Nat. Hist. Surv. July 1976 by Drs. K. B. Anderson, C. M. Thompson, R. E. Sparks and A. A. Paparu.

Since the introduction of Corbicula manilensis from the Far East into North America in 1938 it has spread rapidly and become a very costly liability, causing the shutdown of plants for condenser pipe cleaning and accumulation in reservoirs. Laboratory experiments show that potassium levels could limit distribution by quickly producing foot immobilization. Further study is required to determine the chronic effects of potassium on this mollusk.

Henry D. Russell

May we hope that the "further studies" considered deleterious effects of potassium on other organisms found in the habitats of Corbicula.

The following correspondence refers to Robert Janowsky's article, DISCORD IN PARADISE, or Where Angels Fear to Tread (re: *Conus crocatus*), which appeared in NYSC NOTES No. 248, pp. 5-7. Bob Janowsky gives us this introduction to Bob da Motta: (-ed.)

A. J. (Bob) da Motta is a world-renowned collector of Conidae and is in possession of one of the most complete *Conus* collections assembled to date. He is the author of six new species of *Conus* from Thailand which appeared in the publication of "The Centre of Thai Natural Study," undated, but copyrighted in April 1978.

We do not see eye to eye as to matters taxonomic, as evidenced by our correspondence below, but I am pleased to call him a friend.

RHJ

* *

January 9, 1979

Mr. Robert H. Janowsky
c/o The New York Shell Club Inc.

Dear Bob,

A friend of mine sent me a copy of your Shell Club's Bulletin No. 248 of Jan. 1979, and I am wondering if you will allow me to explain that, when the new cones were named, it was not a frivolous attempt to describe new species just for the hell of it, (as you seem to have that impression), but is the result of very intensive research work justifying the conclusions ultimately reached. It has taken me 8 years to put together one of the most comprehensive Conidae reference collections you will find in private hands. My library also possesses most of the relevant literature on Conidae. To achieve this successfully, one has to have a very intimate knowledge of the subject. I have always consulted and exchanged views with several recognized authorities and other knowledgeable collectors specializing in cones. I mention all this so that you can realize the serious and scientific interest I have been devoting to the subject.

Now, to explain about the two species you queried. Other dissenting opinions I have been hearing do at least recognize that *chusaki* is not *striatus*, but is allegedly the rose-colored for thereof which Sowerby named *floridus*. Few people noticed that Sowerby, after listing *floridus* under "Species 345 *striatus*," made a subsequent correction on page 47 of his Thesaurus Conchliorum with an amended entry as follows:-

"345 FLORIDUS, Sowb. - C. *C. striato* similis, sed vix straitus, lateribus magis ventricosis, spira magis angustata, anfractibus hand tantum excavatis; rosaceus, floccis albis et maculis fuscis sparsim variegatus (f558 *Frontispiece*). - Besides the smooth surface and delicate colouring of this shell, it is distinguished from *C. striatus* by its less cylindrical form and the comparative narrowness of the spire, which is also less deeply grooved."

No doubt after further study Sowerby decided to reclassify *floridus* (what at first he thought to be only a colored variety) as distinct from *striatus*. My continued research has enabled me to locate

Conus floridus, as per enclosed photograph. Figs. 1, 2, 4 & 5 are still immature forms and fig. 3 a fully adult specimen. The young forms closely resemble Lamarck's *C. terminus* (actually *gubernator*) and is not in any way like *striatus*. Fig. 4 matches Sowerby's illustration (f. 558) and description, and they are again quite different when compared with *chusaki*.

In the Raya Island area where there is a mixed population of *chusaki* and *striatus* we have never found any intergrades of the two. I enclose a definition explaining "Species and Speciation" and refer you to page 3, which carries three paragraphs explaining the concept of morphological and biological species. (See: Encyclopaedia Britannica Vol. 17 pp. 449 to 455 "Species & Speciation.") The two species being sympatric in Raya, we evidently have a case here where "the mechanisms that thwart successful interbreeding" are in operation.

About *Conus thailandis*, I give hereunder the distinct morphological differences:-

	crocatus	*thailandis*
Spire:	pyramidal	concavely exserted
Shoulder:	smoothly rounded	angulate and broad
Sides:	straight	slightly sigmoid
Body shape:	cylindrical and attenuated	stoutly turbinate
Color:	saffron	reddish-brown
Markings:	sprinkling of small white subtriangular spots	irregular white blotches
Max. reported size:	64mm	84mm

Neither of the two species has any single morphological feature in common with the other. About all you can say is that *Conus thailandis* is a member of the *crocatus*/*lamberti* complex. Just as you can place *omaria*, *canonicus* and others in the *textile* complex, but they are still separate valid species, each one.

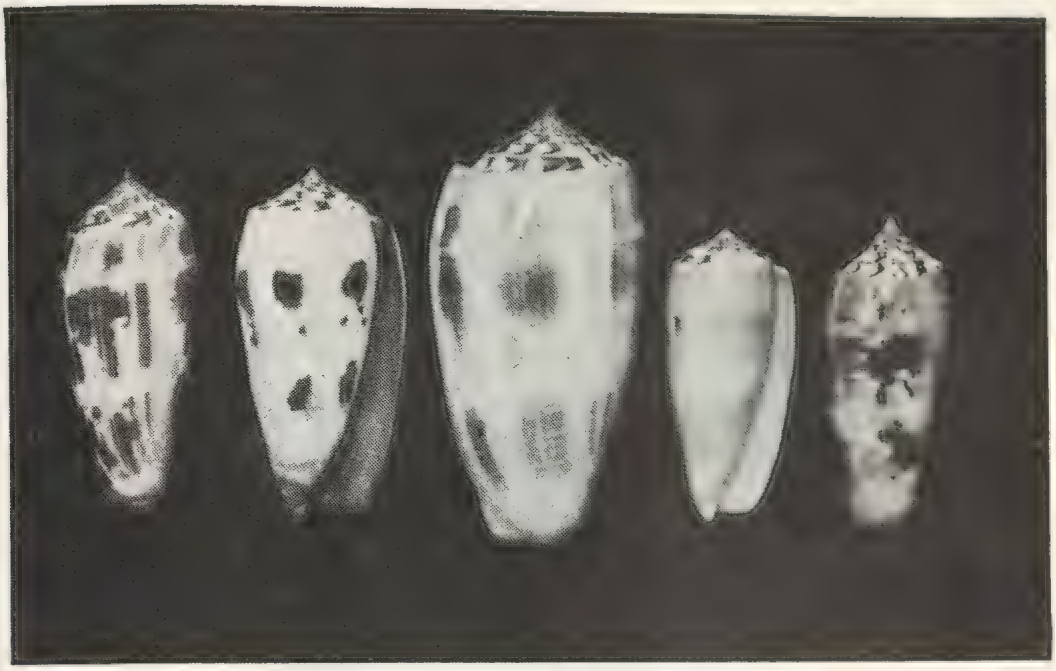
If some day you should visit Bangkok, I hope I may have the opportunity of placing before you the comprehensive evidence available showing how the conclusions that the species are new were reached. The many visitors I have already welcomed here have all left completely satisfied.

With kind regards,

Sincerely,

A. J. da Motta

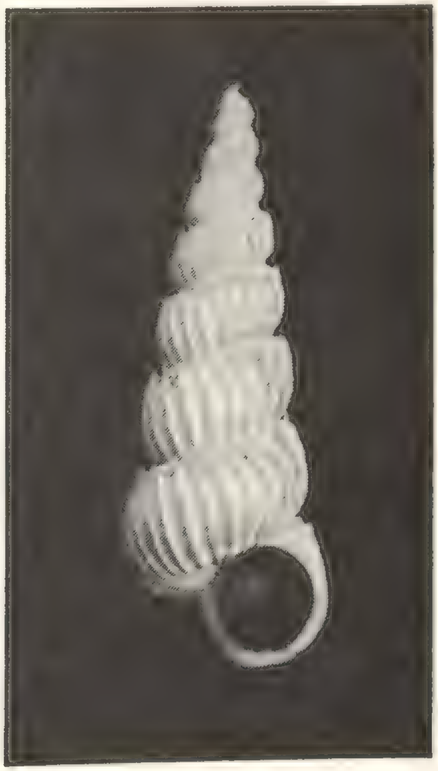
dM/ps



Conus floridus Sowerby, 1858
ex Kilakarai, Rameswaram, India

Fig. 1.	66 x 28mm	Fig. 4.	62 x 24mm
2.	71 x 30mm	5.	59 x 24mm
3.	85 x 41mm		

From a color print received from A. J. da Motta



CIRSOTREMA KAGAYAI Habe & Ito, 1965

Alex Tabakotani

This wentletrap from northern Japan may be one of the most difficult species to obtain among the family Epitoniidae.

A dead specimen is illustrated in SEASHELLS OF THE WORLD IN COLOR, Vol. I, by Habe and Ito (Japanese text) which, however, does not show the true beauty of this shell.

The illustrated specimen measures 42mm x 15mm. It was trawled from 350 meters depth off Choshi, Chiba Pref., Japan.

Collection of, and photograph by, Mr. T. Watanabe, Choshi, Japan.

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The NEW YORK SHELL CLUB meets on the second Sunday of each month, September through June, in

ROOM 426, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, JUNE 10, 1979, at 2:00 pm

PROGRAM: CONE SHELLS (illustrated with color slides)
by William E. Old

ANNUAL ELECTIONS

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THANK YOU

For your donations of conchs, cones, cowries, cash, cakes, art, bivalves, books, and all the other interesting shells and miscellaneous items which you contributed, in person and by mail, for our April party. Donors were so many we can't list them; each and every one contributed to the success of the affair, and we here give you a collective THANK YOU. Also, a THANK YOU and applause for the workers who planned, set up, conducted, and finally cleaned up after the party.

HIGHLIGHTS OF THE APRIL MEETING

The annual social meeting was notable not only for its familiar attractions, but also because it had been designated as the occasion for celebrating the Club's 30th anniversary. This was considered the appropriate time to vote honorary life membership to the Club's founders, Dr. Walter H. Jacobs and M. Karl Jacobson, a bit of business unanimously approved and applauded. President William Walk-Witz announced that the National Capital Shell Club had entered into the spirit of the day by sending a note of congratulations plus a donation of shells.

The speaker for this special occasion was Dr. R. Tucker Abbott. In a field in which professionals and amateurs have formed unusually close ties, his interest in, and respect for, the activities of shell clubs is outstanding.

Dr. Abbott's subject was "Helmet Shells and Marine Biogeography." Projecting a world map marked to show the distribution of helmet shells, he pointed out that Easter Island has only one species, while East Africa is home to twelve. Subsequent slides pictured the shell characters -- knobs, pits and spiral cords are among the most prominent -- that are prevalent in the family. Noting that in many cases these characters, and others such as the shape of the aperture, are linked to geographical distribution, he showed a number of examples on the screen. As another type of geographical effect, he pointed out that Australia has a cold-water species found only along its southern shore, and an eastern species -- the smallest of the helmets -- restricted to a comparatively short stretch of its coast. Referring to non-natural influences on distribution, he gave as an example the transport of Cassis larvae in the bilges of Japanese fishing boats that regularly work the waters off New Zealand. Dr. Abbott ended his presentation with comment on the carving of Cassis and close-up photographs of exquisite cameos.

Since no 30th anniversary celebration would be complete without a dash of "remember when," there was a showing of slides made at field trips, auctions and other events of earlier years. One photo was of a group that included co-founder Dr. Walter Jacobs and charter member Anthony D'Attilio; it was taken on the first field trip, in 1949. Bill Old then showed slides he had made during his recent brief stay in Christiansted, Virgin Islands, when he was working with the shell collection of the late Gordon Usticke.

The annual auction, again conducted by Bill Old, offered a fine selection of shells and related items. Outstanding were two paintings by Al Scarpetti, one of a Spondylus and the other of a group of "strawberry shells" -- Clanculus. The book "Invertebrate Fossils," by Moore, Lalicher and Fischer, was bid in by the auctioneer himself. Hotly contested shells were: Spondylus regius, Conus cedonulli, C. attenuatus, Charonia nodifera, Cypraea hungerfordi, and a lot of five Achatinella.

The sale table, presided over by Lee and Frank Nelson, had its usual interesting assortment to offer.

The door prize, a large and beautiful Lima rathbuni, was won by Sandra Hunter. The raffle prize, a copy of "Field Guide to the Seashells of the World," went to Ed Cowles.

As always, the cocktails and punch, and later the buffet supper, had the accompaniment of animated and prolonged conversation. A special feature was a beautifully decorated 30th anniversary cake, arranged for by President and Mrs. Walkwitz.

Milton Werner, Recording Sec'y

AMU '79

The Corpus Christi meeting August 5 - 10 (See NOTES No. 252) promises to be a "best." In a mailing with general information we learn that there are two trailer parks and a number of motels in addition to La Quinta Royale which is convention headquarters. "Reservations (at La Quinta) must be made direct to the hotel prior to July 21, 1979. Mark card: A.M.U." Those contributing papers are requested to have their titles and abstracts in the hands of President Old by May 30th. Two special events of interest: Monday, August 6, THE TEXAS STOMPEDE; Tuesday, August 7, a festive party, complete with mariachis, at the at the Corpus Christi Museum.

Pre-registration through June 30, $15; after July 1, $18. Banquet $12. Field trips are planned for August 10 @ $3 except for the SCUBA - Oil Rigs @ $25 which will have the equipment furnished.

Registration, banquet, and field trip reservations are being handled by Mr. Carl T. Young, Jr., 621 Chase, Corpus Christi, Texas 78412.

If you are not yet a member of AMU or WSM and plan to attend, we suggest you contact Bill Old re: obtaining the general information and reservation forms.

And do plan to attend.

dr

GENEVIEVE WAGNER

We were sorry to learn of the death last February of "Gene" Wagner of Marathon, Florida, known in Florida's Shell Show circuit as a competent judge of artistic divisions and to us personally as a most gracious hostess.

Our sympathies are extended to her husband, Robert J. L. Wagner.

dr

MALACOLOGY IN THE SOVIET UNION

A great deal of work in malacology is being done in the Soviet Union. Not everyone in the field seems to be aware of it. The following results may prove of interest to our readers.

(1) New species of bivalves from the Red River Delta, the Fai-Tsi-Long Archipelago, and Hainan Island (all in the Gulf of Tonkin) were described by I. P. Zorina in Transactions of the Institute of Zoology of the Academy of Sciences of USSR (Tr. In-ta zoolog., Akad. Nauka, SSSR), vol. 61, pp. 193-208, 1977:

Phacoides scarabatoi
Pitar levis
Pitar sulcata
Pillucina vietnamica
Diplodonta gurjanovae
Moerella fragilis
Codakia golikovi
Raeta lactea
Gari tonkinensis

(2) A new fasciolariid genus and species was discovered in 414 meters east of Iturup Island, and named and described by A. N. Golikov as Costaria borealis in Studies in Marine Fauna (Issled. fauny moryei), 21/29, pp. 102-104, 1977. This find is very important because, as the author says, "This is the first fasciolariid discovered in temperate waters of the Northern Hemisphere." (Iturup, Lat. N. 45°, Long. E. 148°, is one of the southernmost of the Kuril Islands, formerly Japanese Etorofu. --Ed.)

(3) A new genus in Naticidae, *Scarlatia* (type species *Natica fortunei* Reeve, 1856) was described by A. A. Shileiko in Transactions of the Institute of Oceanology of the Academy of Sciences of USSR (Tr. In-ta okeonol., AN SSSR) vol. 108, pp. 79-97. In the same paper the author treats the genus *Polinices* as a full family, Polinicidae, and separates it from Naticidae, where it is usually placed, on the basis of strong differences in the sexual apparatus, mainly in the penis construction.

mkj

RE: TAXONOMY

(We give you here Mr. Janowsky's response to the letter from Mr. da Motta which appeared in NOTES No. 252, pp. 7-8.)

Jan. 28, 1979

Mr. A. J. da Motta
. . . .
Bangkok, Thailand

Dear Bob:

Thank you for your letter of the 9th concerning my article, "Discord in Paradise," which appeared in the NYSC "Notes" #248. I am sorry if the impression that I conveyed in this article was that you named your new species of Conus in a frivolous manner. I am well aware of your truly excellent library and collection and of the great amount of time and expense that you have invested in your study of the Conidae. I would indeed be very pleased if you would allow me to correct the impression I may have created by permitting me to reproduce your letter of the 9th and this my reply to you in a forthcoming issue of the same publication.

While I am the first to admit that your working techniques and methodology are sound, I still am unable to accept your conclusions as to the validity of the species that you proposed. I did not compare your species, Conus chusaki da Motta, 1978 with Conus floridus Sowerby, 1858 because it is indeed my impression that C. floridus is a synonym of Conus striatus Linné, 1758. One would certainly not consider C. floridus as a valid species on the brief and somewhat undistinguished original description -- and I am unaware of anyone holding it as a valid species today.

Most certainly I have not studied this subject matter as closely as you have, and most certainly then my opinions do not and should not carry as much weight as yours should in this matter. I think that the basic disagreement that is between us in this issue is one that has plagued taxonomic workers from the beginning, we are unable to clearly state just what it is that constitutes a valid species or what it is that separates one species from another. I think that you, too, are very much aware of this problem since I note that you enclose with your letter the section on speciation from the Encyclopedia Britannica. Although this is a fairly well detailed concept in the Encyclopedia its practical limitations are manifold. Most certainly, what you consider might be a major difference in shells I might consider a minor difference or perhaps, since there are no clear standards, I might consider that there is not even a difference at all. We, at the very best, are here dealing in an inexact science. I take a very limited view of speciation, as you know I am a "lumper" of the first order and it is my belief that there are very few species of Conidae (or any family, for that matter) but that there is within each species a great potential for variation in almost every aspect of its makeup. We are perhaps not so far apart in our views when I note your mention that Conus thailandis is a member of the Conus crocatus/lamberti complex -- I would indeed agree with that statement with two minor points of exception: firstly, I am not fully certain that Conus lamberti Sowerby, 1877 should be considered as being in the same complex of shells as C. crocatus and C. thailandis.

Quite frankly, *C. lamberti* remains as a great unknown to me, as from the very superficial study that I have made of it I tend to think of it as belonging to the *Conus marmoreus* complex. Secondly, though, I am not fully convinced that, in spite of the large number of differences that you point out between your taxon and *C. crocatus*, that they are fully separable as species. I have seen in the past, long before the *Conus thailandis* boom in Phuket, other specimens of what I have considered to be *Conus crocatus* very similar in shape and appearance to what you call *Conus thailandis*. One specimen in particular comes to mind from American Samoa that was almost identical to your species save that it was considerably smaller than any adult specimen from Phuket that I have seen to date.

I do hope that I shall some day have the pleasure of meeting you in Bangkok. It is almost impossible to fully appreciate one another's ideas in written form. Most probably an hour's face-to-face conversation would do more to close the "ideological gaps" between us than would a thousand exchanged letters but, until that time, I suppose that we must make do with what we have.

With my very best wishes and kindest regards,

Sincerely,

Bob

Robert H. Janowsky

SPECIES & SPECIATION

The following paragraphs are those referred to in the correspondence between Mr. da Motta and Mr. Janowsky. Source: Encyclopaedia Britannica Vol. 17, pp. 449 - 455, "Species & Speciation."

"The concept of morphological species requires that one population must defer in some morphological characteristics from another population in order to be described as a new species. That the majority of species can probably be described in this way is evidenced by the fact that species named on the basis of morphological differences also fit the biological species concept. The concept of typological species, while it is based on morphological differences, is distinct in denying variability within species. The morphological concept holds, instead, that variability is the rule rather than the exception.

The biological species is what most biologists have in mind when they speak of species. This multidimensional concept recognizes that a species may be spread over a wide area and that in different areas it may be dissimilar in appearance, may breed at different times, or, in the case of migratory species, may leave and arrive at different times. The central concern is with what it is that produces and maintains the distinctiveness of each species over its range. Attention is therefore focussed on the mechanisms that thwart successful interbreeding. Although the biological species concept is difficult to apply to all species, it seems to be the most suitable way of regarding species.

The biological species concept has wide application to the majority of organisms. It focussed attention on the really important criterion of reproductive isolation, which is the mechanism by which species integrity is maintained. Because reproductive isolation is often brought about as a result of differences in behavior, ecology and genetics, much attention has been given to these characteristics; this has resulted in enrichment of the field of systematic biology and a better understanding of the nature of species."

(Submitted by A. J. da Motta)

PUBLICATIONS:

CONE SHELLS:

A Synopsis of the Living Conidae, by Jerry G. Walls, 1979, T. F. H. Publications, Inc., Box 427, Neptune, New Jersey 07753. 1011 pp. (352 in color), 309 species fully illustrated in over 1160 color photos, indexes of over 1400 living and 1300 fossil names, hardbound 5½ x 8½". Price $30.00 (plus $1.00 for postage and handling when ordering direct from the publisher.).

The publisher's release describes this work by Jerry Walls as "... the complete cone book describing and illustrating in color every valid species and their subspecies and major varieties. Each species is described in detail, with a summary of variation, a comparison to similar species, and a synonymy. An attempt has been made to trace all names for living cones back to their original description and evaluate them in the light of modern knowledge of the group. This has resulted in a clearing away of many questionable names and the first attempt at a basic synopsis of the living cone species.

"The detailed text is written in non-technical language, with emphasis on visible shell characters only. This is the first complete set of cone descriptions produced since the classic work of Kiener (1845-1850), and it will provide a basic framework for cone studies for many years to come. The synonymies are as accurate as possible and cover all known valid names based on living cones proposed between 1758 and 1976. Many names have been changed and species status modified as a result of the research for this book, but all major changes are fully explained.

"Extensive lists of dealer-names and their equivalents, fossil names (over 1300), and a complete synonymic index of over 1400 names of living cones supplement the book. A checklist and pricing guide to cones is included as an aid in evaluating collections and simplifying exchanges."

MALACOLOGICAL ARTICLE OF THE MONTH
Homing in Cellana tramoserica

Drs. D. A. Makay and A. J. Underwood discuss the homing of the limpet Cellana tramoserica in an article entitled, "Experimental studies on homing in the intertidal patellid limpet Cellana tramoserica (Sowerby), published in Oecologia 30: 215-237, July, 1977. Not all limpets return to a home-site. Some move around at random, particularly emigrating from areas of increased density. Homing behavior supports the hypothesis that it is an adaptation which regulates local density and dispersion to maximize utilization of food resources.

Henry D. Russell

WHAT THE TIDE TABLES DON'T TELL YOU

Robert J. L. Wagner

Today, tides are printed in handy booklets. These give one fairly accurate knowledge of tidal predictions along the shorelines of the world.

But tides are affected by many factors besides the simple, widely known influence of the moon and sun. A change in barometric pressure of one inch can permit the sea to rise one foot. There are also wind tides. Maybe the tables for an area say it's supposed to be low tide, but Mother Nature can't read tables and her winds can roll up enough water so that a puzzled observer thinks somebody goofed.

So tidal knowledge isn't linked to the tables alone. It consists of understanding the tides, what generally controls them and how and why they vary. Ever hear of the "Harris theory?"

Years ago Dr. Harris, a scientist with the U.S.C. & G.S. (United States Coast and Geodetic Survey --Ed.), explored masses of data and came up with the Harris "standing wave" theory of tidal flow. He said that tides are formed, not on a global basis, but by moon oscillation of vast water masses in ocean basins, and that such 'regional' tides can flow almost independently of each other. For example, the tide in the N.E. portion of the Gulf of Mexico is a "tropic tide." There is only one high and one low tide each day. Yet on Florida's opposite coast and along almost the entire Atlantic Seaboard, tides are semidiurnal, or two highs and two lows each day. Throughout the West Indies, tides are "mixed." When the moon is near the equator, tides are semidiurnal (2 highs and lows daily). At the time of maximum declination, tides are "tropic" with a single high and low daily.

Ranges also vary considerably. There is almost no tidal flow in the eastern half of Florida Bay. But on the east coast of U.S., each major indentation in the coast line has a higher range than parts of the coast extending further out to sea. Tides range about 3 feet along lower Florida, 8 feet in the area where Georgia recedes inward, 5 feet where the New York - New Jersey coast inches inward, and gain fantastic ranges above New England, where a basin is formed ending in the Bay of Fundy where tidal ranges approach 50 feet.

Because the normal tides are caused by the moon and because the moon rises about 50 minutes later each day, each high tide, every day, is not quite one hour later than the high tide the day before. That's a normal semidiurnal tide. Yet in Tahiti the two high tides occur exactly at noon and midnight; the two low tides exactly at dusk and dawn. There's no 50 minute delay, and there never has been.

There is another complication in the tides. When the sun and moon are in line (as times of both new and full moon), tidal ranges are greater. These are called "spring" tides. It has nothing to do with the season of the year; they occur at all times of the year -- whenever there is a new moon or full moon.

When the sun and the moon are not in line, tidal ranges are smaller. These are called "neap" tides. Ranges are also greater when the moon is closest to the earth (is perigee).

I don't mean to knock tide tables. They are potentially invaluable to boatmen, but, to be better informed, all it takes is a little study.

From: JACKSONVILLE SHELL SHOW BOOKLET for 1978, p.20

WHAT THE TIDE TABLES DO TELL YOU

We refer to the tide tables published annually by the Department of Commerce. The "local" volume is entitled "Tide Tables 1979, East Coast of North and South America Including Greenland" and is available @ $5.00 postpaid from: Distribution Division, National Ocean Survey (C-44), Riverdale, Maryland 20840. Herewith a paragraph from the introduction:

"This edition of the TIDE TABLES, EAST COAST OF NORTH AND SOUTH AMERICA contains full daily predictions (Note possible variations as pointed out in Bob Wagner's article. --Ed.) for 48 reference ports and differences and other constants for about 2,000 stations in North America, South America, and Greenland. It also contains a table for obtaining the approximate height of the tide at any time, a table of local mean time of sunrise and sunset for every 5th day of the year for different latitudes, a table for the reduction of local mean time to standard time, a table of moonrise and moonset for 8 places, a table of the Greenwich mean time of the Moon's phases, apogee, perigee, greatest north and south and zero declination, and the time of the solar equinoxes and solstices, and a glossary of terms.

dr

CYPRAEA SAKURAII Habe, 1970

Robert H. Janowsky

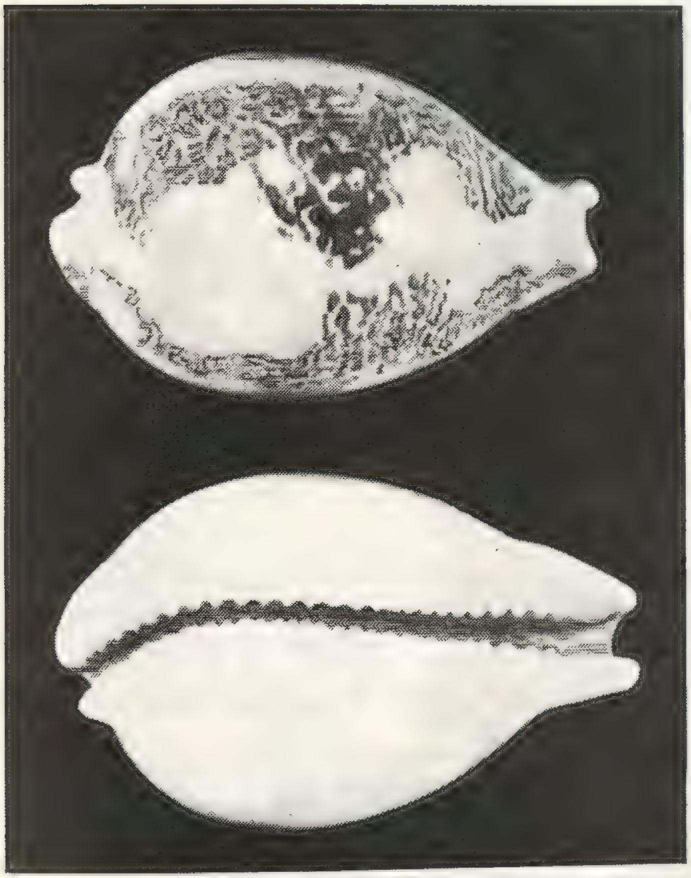
This species is one of the rarest of the cowries and is seldom seen in collections. The species was first described in 1970 by Dr. Tadashige Habe and to date very few examples have been collected. Cypraea sakuraii bears a resemblance to the more familiar (but now also difficult to obtain) Cypraea hirasei Roberts, 1913. There is, most definitely, a close relationship between these two species, but I feel that their separation is entirely justified. In the limited number of examples that I have been able to examine there have always been distinct and consistent differences.

The most readily apparent difference is in the patterns: Mature specimens of Cypraea hirasei always have a well developed dark blotch more or less in the center of the dorsum; this is often (but not always) accompanied by a ring of small dark specks above the margins. In the case of Cypraea sakuraii there is no dark solid patch in its center -- its pattern consists of numerous short lines forming almost a filigree network above the margins (which are high and clear) and encroaching onto the top of the dorsum which is also largely clear. The coloring of both species when freshly collected tends to be the same: cream/flesh overall with brown/red markings on the dorsum; base and margins are white and the canals are very light orange/pink.

Both Cypraea hirasei and Cypraea sakuraii tend towards having well produced siphonal canals. They differ in overall shape, though -- C. sakuraii has a much more roundly inflated appearance than does

C. hirasei. Tooth structure along the labial margins, too, is quite different in the two species: The teeth of C. sakuraii are fewer in number on the columella but are more strongly produced and proportionately coarser in appearance. In front of me now, as I write, are the two species: a 40mm specimen of C. hirasei which has 32 teeth on the columellar labial and 23 on the outer labial. In contrast, the 44.9mm specimen of C. sakuraii (the one here illustrated) has 24 columellar teeth and 25 on the outer labial. The teeth of C. hirasei cross slightly onto the columella; those of C. sakuraii are not as long.

In each the columella is smooth and slightly flared, and there is a sulcus at the anterior end with well developed teeth (stronger in the case of C. hirasei) separating the canal from the interior portion of the columella.



Cypraea sakuraii Habe, 1970
L. 44.9mm, W. 28.7mm, H. 24.2mm

Collection of and photograph by
Robert H. Janowsky

The illustrated specimen was collected by a coral fishing boat operating off southwest Taiwan at approximate depths of 100 meters. It measures 44.9mm in length, 28.7mm at its widest point, and 24.2mm at its maximum height. It has been reported from waters off southeast Japan and northern and southern Taiwan. I have heard reports that specimens have been collected in the southern Philippines but, to date, every one of these specimens that I have seen has been Cypraea hirasei. There is, though, every reason to believe that with increased collecting activity this species will be found, in time, in the Philippines. To date I have found no Australian counterpart for C. sakuraii. As I am sure many of you are aware, many species of Cypraea found in the area that C. sakuraii seems to inhabit are found also in Australia; e.g., C. hirasei and C. queenslandica, C. hungerfordi and C. coucomi, and C. langfordi and C. langfordi moretonensis -- as well as C. guttata. I would not be surprised to see C. sakuraii from Australia, too -- in time.

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FOUNDED JAN. 1949

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The NEW YORK SHELL CLUB meets on the second Sunday of each month, September through June, in

ROOM 426, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, SEPTEMBER 9, 1979, at 2:00 pm

PROGRAM: RARE SHELLS (Articles I Haven't Written)
by Bob Janowsky

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FROM THE PRESIDENTS:

I would like to take this opportunity to thank all those members who assisted me during my presidency and made things "come out right." I found the spirit of cooperation shown by these people a most rewarding experience. Indeed, such cooperation is the backbone of any good organization.

It was wonderful to see Karl Jacobson at the June meeting and at dinner -- just like my early days in the club. It underscored for me how much Karl is missed. His presence made my "farewell" meeting and dinner as president a memorable occasion.

I wish Fred Cannon, our incoming president, good luck and success in his term in office.

I look forward to seeing all of you in September.

Best wishes,

Bill Walkwitz

Dear Friends and Club Members:

With the arrival of September we put the summer behind us and start to think of the year ahead. As your new president I look forward to an active and stimulating year. The officers all plan to work hard together to make each meeting a pleasure for all of you. We hope to see lots of old and new friends and members at all the meetings.

At our opening meeting Bob Janowsky on Rare Shells -- some of those on which he has not yet written articles. We all enjoy Bob's talks and I know you will all want to make an extra effort to attend.

Enclosed with this issue of NOTES you will find a questionnaire.

Please fill it out and return it to me as soon as possible. It is meant to help us plan future meetings, the NOTES, and other Club activities. Our Corresponding Secretary Marie Sussman was rather disappointed in the response from our last questionnaire, which was to help compile a new complete roster -- so please help us and send this one back as fast as you can. The New York Shell Club can only flourish with your help and input. We want you to enjoy the Club and to take an active part. Please respond!

I wish to thank Bill Walkwitz, our retiring president, for all of his efforts to make the past year so enjoyable.

I hope you all had a happy, healthy and restful summer and are "raring to go."

We look forward to seeing you all on September 9.

With warm regards,

Fred Cannon

HIGHLIGHTS OF THE MAY MEETING

Treasurer Mathilde Weingartner, who had written to founding members Walter Jacobs and Karl Jacobson to inform them of their election to honorary life membership, read letters from both, expressing their appreciation. President William Walkwitz reported that he, also, had received notes of appreciation from each.

The special display for the day was a group of Cypraea tigris assembled by Bill Old. One was a bisect, and the others showed unusual growth features, such as uncharacteristic coloration, lack of dentition, blurred spots, or abrupt color change. One was marked on one side of the dorsum with the stripe pattern of immaturity and on the other with the spots of a mature specimen.

In appointing a nominating committee for the election of officers in June, Bill Walkwitz announced that he will be forced to step down after only one year as president because his work will prevent him from attending most meetings for the next year or more.

The speaker was Jerry Harasewych, of the Delaware Museum of Natural History. He described a collecting trip to Venezuela, Granada and Barbados. The story of the misadventures that befell him and a fellow naturalist in Venezuela he introduced as "a tale of woe and horror." The details included missed appointments, catch-as-catch-can living accommodations that were distressingly inferior and heavily overpriced, insects, air temperatures to 120°, water temperature of 55°, and very little opportunity for collecting. The picture did begin to brighten shortly before they left for Granada and Barbados, and those stops lived up to hopes and expectations. At Barbados, their rediscovery of the long-unseen Conus couderti provided the expedition with a grand finale.

Milton Werner, Recording Sec'y

HIGHLIGHTS OF THE JUNE MEETING

President William Walkwitz pointed out that two "special" members were present: Honorary Life Member Karl Jacobson, who now spends half of each year in Florida, and Honorary Member Dr. William K. Emerson, Curator of Living Invertebrates, AMNH.

The annual election resulted in the following slate of new and re-elected officers:

President	Fred Cannon
Vice-President	Dorothy Janowsky
Treasurer	Mathilde Weingartner
Recording Secretary	Milton Werner
Corresponding Sec'y	Marie Sussman
Historian	Nick Katsaras
Directors	William E. Old, Dr. Harold Sussman, Dr. William Walkwitz

A visitor to the meeting was Edward Petuch, of the University of Miami. He had been Jerry Harasewych's companion on the collecting trip that Jerry described for us at the May meeting and, as a surprise speaker, added his observations on this Caribbean expedition. He thinks their finds include a number of new species, from localities not previously collected. He mentioned seeing, near Cartagena, Venezuela, Cypraea mus not only crawling on exposed rocks, but also across a road, at night. Ed had with him, and displayed, some shells collected on the trip.

The scheduled speaker was Bill Old, whose subject was Conus. Remarking on the confusion in the taxonomy of the family that has resulted in hundreds of synonyms, he showed slides that illustrated the variation that characterizes many species, and that generated much of the confusion. He also showed photographs of a number of freak cones. His last slide showed a number of rarities in a "group picture" which he described as a King's ransom in cones from South Africa. Bill had on display a number of specimens from his own collection.

Milton Werner, Recording Sec'y

CHANGE OF ADDRESS FOR AMERICAN MALACOLOGISTS, PUBLISHERS

Dr. R. Tucker Abbott informs us that as of July 20, 1979, their new address is:

American Malacologists
P.O. Box 2255
Melbourne, Florida 32901

SHELL DESK DIARY, 1980

The 1980 edition of the "Shell Desk Diary" has a new publisher and may be ordered by sending, for each copy desired, $4.00 plus 8% tax to: SHELL DESK DIARY, Attention Gerald Galison, 25 West 43rd Street, Room 1023, New York, New York 10036.

Only orders received by August 15th were guaranteed November delivery. If you want this forthcoming 1980 edition to complete your set, we suggest you order as soon as possible.

A NOTE ON THE DISTRIBUTION OF DRYMAEUS MULTILINEATUS (Say, 1825) IN EASTERN FLORIDA

Morris K. Jacobson

The Lined Tree Snail, *Drymaeus multilineatus*, is a very pretty little snail, about one inch high and less than one-half inch wide. It is opaque ivory in color with numerous unequal, obliquely axial, brown stripes. The sutures likewise have a variously wide brown line. (See Emerson and Jacobson, AMNH Guide to Shells, 1976: p.234) It is said to be a useful snail, since it lives on small fungi harmful to fruit and other trees.

Its range in Florida is mainly in the south: the Florida Keys up to Arch Creek, about 12 miles north of Miami (Pilsbry, 1946:27)*. On the west coast its range is also mainly southerly, mostly in Collier County. But there is a report of a much more northerly colony in Manatee County in central Florida. Of any colonies found north of Collier County, Pilsbry (ibid.) writes that such colonies are "owing to transport by human agency, Indian or later."

A similarly isolated colony was found recently at Indialantic, Brevard County, on the east coast, by Terry Hillman, on September 24, 1978. Whether its presence is also due to human transport is unknown, but, for several reasons, not very likely. On a recent visit to the site (May 8, 1979), two members of the Astronaut Trail Shell Club (Eleanor Hillman and Karl Jacobson) found several live, mature specimens on an oleander bush just east of Route A1A. Hence it is clear that the colony successfully wintered over. Two specimens were collected to be deposited in some museum as "voucher" specimens. The others were merely recorded.

It can now be said that *Drymaeus multilineatus* has at least one colony as far north on the east coast as Brevard County. Whether this can be considered as an extension of range, i.e. whether other colonies can be found between Indialantic and Miami, remains to be seen.

*Pilsbry, H. A., Land Mollusca of North America, 1946, Vol. 1, p. 26 ff.

(The above report appeared also in the newsletter of the Astronaut Trail Shell Club, spring, 1979.)

MALACOLOGICAL ARTICLE OF THE MONTH

Re: *Polinices duplicatus*

"Feeding and growth rates of *Polinices duplicatus* preying on *Mya arenaria* at Barnstable Harbor, Massachusetts" is the subject of D. Craig Edwards and Judith D. Huebner's paper in Ecology 58: 1218-1236, Autumn 1977. The factors chiefly affecting rates were food supply, temperature, predator size or weight, and recent feeding experience. It was found that feeding varied directly with temperature, peaking at 0.6 *Mya* per snail per day in the warmest months, but ceasing (at approximately 41°F) for four months in winter.

Henry D. Russell

SHELLING IN THE MALDIVES (Part I)

R. Plotkin

(The following account comprises the first section of a letter dated April 10, 1979, from Dr. R. Plotkin of Johannesburg, South Africa, to our members Dottie and Bob Janowsky.)

Here are some interesting points regarding the Maldive Islands, from the shell point of view. First, the islands are not as rich a shelling area as I had been led to believe. Although it is still primitive, there is a tremendous number of tourists pouring through the place, and they seem to have stripped the accessible areas pretty thoroughly. Scuba equipment is available at all the tourist resorts, but strictly under the control of the Barakuda Club of Germany, and they will only hire equipment to individuals diving in the group from the club. They do not permit any object on the reef to be touched, and therefore you cannot collect shells using their equipment. Collecting is therefore restricted to the areas of the reef accessible with snorkelling. The reefs themselves are very well established, with a lot of dead coral. Visibility is moderate, good to only about 40 feet. The fish life is superb, and I have not seen any other area in the Indian Ocean with such a huge variety of fish. The reefs are within a few yards of the beach.

Despite the foregoing, I did succeed in bringing back a large number of specimens. About two-thirds of them I collected myself, and about a third I bought from native fishermen. They all have a highly inflated idea of the value of their shells, each person believing that sea shells come only from the Maldive Islands, and therefore they can determine the value of any particular species. From the local fishermen, I found nothing of any great interest, apart from one fairly good *Conus auger*. I have always previously seen this shell only from Moçambique, and the three or four specimens that I have are not as good as the one I was able to get from the fisherman. Subsequently I got a gem specimen in Sri-Lanka from a local diver.

The chances of finding any rare unrecognized shell amongst the fishermen is pretty remote, as I discovered only after I had checked through several thousand Cypraea tigris, in the hopes that amongst them would be an unrecognized C. leucodon. I was told sometime later that if any unusual-looking shell comes along which is not readily recognized by the fishermen, they immediately take it to the head man of their particular island, and if he does not recognize it it is put carefully aside to be later delivered to the main island of Malé. These people will never disclose to the casual tourist any unusual shell of this nature. So much, then, for my hopes of a leucodon.

On the island of Malé, I found two different dealers who claimed they had had the leucodon. Obviously, I thought one of the two was not telling the truth. However, I subsequently discovered from Rodney Jonklaas on Sri-Lanka that there in fact have been two leucodons from the Maldives, and that he himself had identified both specimens. So each of the dealers was therefore telling the truth. The one leucodon went to a collector in India, and the other to Italy.

The next surprise for me was a claim that one of these dealers had handled two Cypraea guttata. I did not believe this, and thought that they had simply found a picture in a shell book with a comment of its rarity. However, there is a stamp issued by the Maldive Islands commemorating the first finding of a guttata there, and I have enclosed one of these stamps for your interest. It would seem that only two specimens have been found, and later I was able to examine one of them on Sri-Lanka, where it is owned by a shell dealer in Colombo. The shell was light in colour, about 60mm, but unfortunately had a number of tooth marks on the dorsum. Despite that, it is a very beautiful shell. The dealer is not offering it for sale, and intends keeping it in his own private collection. At the same time there were reports of a number of Cypraea aurantium, but I was not able to verify this. It would seem that there have been no more than two or three of these.

(To be continued)

April 8, 1979. Clockwise from top left: Bill Walkwitz, Bob Janowsky; The Cake; Dr. Abbott's presentation; George Raeihle, Dr. R. T. Abbott; Joyce Walkwitz cuts the cake. Photos by Dr. Harold Sussman.

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[illegible]

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NEW YORK SHELL CLUB NOTES No. 255 October 1979 Page 1

The NEW YORK SHELL CLUB meets on the second Sunday of each month, September through June, in

ROOM 426, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, OCTOBER 14, 1979, at 2:00 pm

PROGRAM: "RARE SHELLS OF THE WORLD" by William E. Old
"AMU CONVENTION 1979 " by W.Old and M.Werner

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SHELLING IN THE MALDIVES (Part II)

R. Plotkin

(Concluding the letter of April 10th, 1979 from Dr. Ronald Plotkin of Johannesburg, South Africa, to Dottie and Bob Janowsky.)

As far as cones were concerned, I was surprised at the great number of Conus zonatus around the islands, being offered by fishermen for as little as $1 apiece. I even found a couple myself in shallow water. Most of these were in pretty good condition. The next surprise was from a shell that the local people call the Maldive cone. This is quite different from C. maldivus Hwass, which is the Indian Ocean equivalent of C. generalis Linné. This shell was indeed extremely common, there being literally thousands of them all over the place. This in fact is the shell that has lately been argued about as C. pramparti*. The locals are adamant that it comes only from the Maldive Islands, but of course one knows better. I myself collected a large specimen to the south of Mauritius some years ago, and at the time thought that I had found a C. barthelemyi of a very large size (90mm), and in surprisingly shallow water. Most of the barthelemyi come from deep water off Flic-en-Flac. I showed the specimen to Helene Boswell, and she thought that it was a gerontological gubernator. I personally thought that if it was going to be a gerontological specimen, it would more likely be a striatus. I have been interested to see subsequently that there is now argument about whether these two cones are not in fact the same species.

There are dozens of little general dealer's shops and all of them sell shells, and there are an equal number of curio shops who also sell seashells, but there was very little being offered in all these various shops that was of any particular interest -- thousands and thousands of the same common species. Shells cost a dollar apiece, irrespective of the fact that there may be two thousand Cypraea lynx in the shop, each one is worth one dollar. Ovula ovum sells at six to eight dollars a time, probably because they catch the average tourist's eye, and he is prepared to pay that much for this pretty white shell. However, most of the dealers had at least one Conus aureus paulucciae, very large, 70mm or more, for which they wanted prices varying from $60 to $250! There were also two Cassis fimbria, one in excellent condition, probably live-collected, for which the man wanted $250. The other was a poor specimen, in Sri-Lanka, for which they wanted $150. I was also shown several Pacific species, certainly obtained by exchange, which were claimed to be of Maldivian origin. Because they were said to be rare, they wanted prices round about the $50 range, and two of these were Cypraea schilderorum and Cypraea sulcidentata. There was also the odd volute, either from the Pacific, or from India.

One interesting little cowry came my way in Sri-Lanka. At first glance I said that it was an onyx, but the diver who showed it to me said "No," and turned the shell over. The base and teeth were pure white, the ends a very deep brown, almost black. The shape and width of the aperture were not at all like onyx. I believe there is an onyx described which is all white, and perhaps this is an intergrade, but then the aperture is so different. The next time I have an opportunity to visit Helene Boswell I will take this specimen with me. For the rest, although I did not come back with anything else terribly exciting, I did get some very nice specimens of more common species, and it was certainly a worthwhile holiday.

*(Although the species is nomen nudum = in name only, never having been officially described, "pramparti" has been used by dealers and collectors on a popular level to designate this common Maldive Cone. Another more recent designation is "C. leehmani." W. E. Old is among several who consider the shell referable to Conus gubernator terminus Lamarck, 1810. --R.H.J.)

REVIEW: LOS UROCOPTIDAE DE CUBA (Mollusca: Pulmonata)

by Miguel L. Jaume and Alfredo de la Torre. Ciencias Biológicas, Universidad de la Habana, Series 4, No. 53, February 1976. Soft cover, 122 pp (to be continued). For information as to availability and price write to Dr. M. L. Jaume, Museo "F. Poey," Universidad de Habana, Calle 25 e I, Vedado, Habana, Cuba.

The Urocoptidae are a large family of land shells confined to the Neotropics (northern South America, Central America, southern North America including Florida, and the West Indies). (Zilch 1960:522) They are mainly cylindrical or narrowly fusiform shells ranging in size from some as large as cigars (in Mexico) to narrow species no thicker than a small brad. Most of them break off the nuclear whorls as they grow, hence the name: ur = tail + coptis = cut off. The urocoptids are nowhere so richly developed as in Cuba, and possibly Hispaniola. Although a considerable number have already been described (usually under the generic name of Cylindrella), the present work introduces 36 new genera and 365 new species and subspecies. This may sound like an excessive number, but actually it may well indicate the unbelievable richness of this family in Cuba. The facts are that for years Dr. Carlos de la Torre, the dean of Cuban malacologists until his death in 1950, together with Dr. Paul Bartsch of the United States National Museum, was working on an exhaustive monograph of this overabundant family. The manuscript was completed in 1943 but remained unpublished. Since publication was expected at any time, Cuban collectors were reluctant to describe new species, since they felt that all these novelties would appear when the Torre-Bartsch manuscript saw the light of day. Any presumably new species shown to the revered Don Carlos was met with the comment: "Lo tengo en manuscrito" ("I have it in manuscript form.") Hence it should surprise no one that such a flood of new names is now released.

However, it is well to point out that the danger of overnaming cannot be disregarded. Dr. Jaume, especially in his specific and subspecific diagnoses, based his work upon characteristics of shell morphology alone. Now, it is true that even small isolated shell populations in Cuba develop readily distinguishable characteristics. Whether such characteristics are worthy of nomenclatural designations is another question. In their work on some groups of Cuban helicinid genera, Clench and Jacobson (1971) discovered, by careful mapping of all named forms, a frequent "random distribution associated with a single variable group, many of whose features had not yet become fixed." Hence they chose to follow the suggestion of Mayr and Rosen (1956: 15) who in their work on the variable Cerion of Bimini, concluded that "... the application of specific and subspecific names to population samples hindered more than facilitated an understanding of variations and evolution." Whether such names are justifiable biologically or not can be finally determined only by the application of some of the recently developed methods of species determination such as electrophoresis or antigenics. Jaume himself remarks that future anatomical studies can bring about "important modifications." In the meantime, until such studies are completed, the present work offers a useful example of alpha (or first step) taxonomy in a complicated field where no revision has been undertaken in three-quarters of a century.

Dr. Jaume's work is based upon the Torre-Bartsch manuscript. It also includes several papers which appeared after 1943 and numerous new species not described in the larger manuscript. The author correctly states the case for the Cuban urocoptids. He writes: "... (they) are extraordinarily abundant; there is practically no locality in Cuba where some representatives are not found. The majority of the species are found strangely isolated at times to a small 'mogote' or the calcareous side of a single mountain." (My translation.) Since so many of these forms remained undescribed, it was impossible to publish complete local faunal lists without including a large number of "Urocoptis sp." The present work is designed to overcome this difficulty somewhat.

Unfortunately it is not easy to use this publication without knowing the exact locality where the shells were taken. Even then it is no child's play. The work contains no connected descriptions of the new taxa. Instead, all the forms appear in determination keys (all in English) and another list gives the type-locality of the species. Hence to use this book, one must work backwards. First the locality (near or at the stated type-locality) must be found in the book. This will give one a name, or several names. Now, by using the keys backwards -- from the narrowest division to the gradually wider ones -- one must decide which of the statements most closely describe the shell at hand. The task is made even more difficult since no figures of the shells appear as yet, though it is to be hoped that subsequent parts of this work will include such figures.

The question arises whether these rather skimpy descriptions can be accepted as valid under the code on international nomenclature. I discussed this with Dr. W. K. Emerson of the American Museum who pointed out that the publication marginally fulfills the legal requirements; diagnostic distinctions are given (in the keys) and exact type-localities are provided in every case. If in addition one can learn where the holotypes are located (presumably in the Museo Felipe Poey in Havana) it is conceivable that the author's idea of the new taxa can be elicited and the new names properly assigned.

The richness of the urocoptid fauna is not necessarily a good sign, Pilsbry (1904:xv) writes as follows: "Many genera of Urocoptidae are in the stage called ... phylogerontic. They are in the old age of the race, and there is every reason to believe that many phyla in the family will not outlast the present geological period. The stigmata of decadence are seen on many sides." Among such signs is the overspecialized nature of the radula, which makes adaptation to changing conditions unlikely. Furthermore, "the fusiform shape of the shell indicates decreasing growth power." The loose coiling of the last whorl -- which in the case of the species Gyraxis brooksiana hangs down from the penultimate whorl for a distance as long as the entire rest of the shell -- "is a feature of senility in the individual gastropod, and of old age in the race." Pilsbry concludes that the Urocoptidae as a whole seem therefore to have passed their acme. They are in a stage similar to the extinct ammonites, brachiopods, and trilobites when "the more spiny, highly ornamented, abnormal, bizarre forms appeared at or about the time when the vitality of the type was apparently declining." If true, this would indeed be sad, but at least we have all of the present geological period in which to collect urocoptids. This should be time enough.

Morris K. Jacobson

WORKS REFERRED TO

Clench, William J. and Morris K. Jacobson, 1971. A monograph of the Genera Calidviana, Ustronia, Troschelviana, and Semitrochatella in Cuba. Bull. Museum Comparative Zoology, Harvard University, vol. 141, no. 7, pp. 403-463.

Mayr, Ernst and C. B. Rosen, 1956. Geographic variation and hybridization in populations of Bahama snails (Cerion). American Museum Novitates, no. 1806, pp. 1-48.

Pilsbry, H. A. 1904. Manual of Conchology, series II, vol. 16. Urocoptidae, pp. xl + 204. Philadelphia.

Zilch, Adolph, 1960. Familia Urocoptidae *in* Gastropoda, Euthyneura, pp. 522-543, Berlin-Nikolassee.

SHELL AUCTION: Sol Weiss announces a first auction of shells to be held on Long Island -- at Williston Park on October 28th. For details write to Sol at 65 Harvard Street, Roslyn Heights, New York, or telephone (516) 621-6571.

COLLECTING MOLLUSKS FOR THE AQUARIA

Dorothy Raeihle

In our experience, species living in the intertidal zone or in very shallow water have adapted best to our home aquaria; they have already established a tolerance to changes in temperature, light, and, very often, salinity. This is not to say that species found in deeper water would not survive, but it is to caution that their needs of a constant coolish temperature and proper degree of aeration should be considered.

If you want to get your mollusks home alive and in good shape, start caring for them in the field. Please, do NOT use a plastic bag as a collecting bag, because they will fall to the bottom and be crowded and smothered by the collapsing plastic -- an entirely unnatural situation. Do use pails or other wide containers, nonmetal, with enough water to easily cover the mollusks; shallow water with a large area of surface exposed to the air will permit a natural aeration. (NEVER use deep water in the pails unless you are using a battery-operated air pump such as fishermen use to keep minnows and shrimp alive. These small pumps are available in tackle shops.)

Try to pick up a sample of the mollusks' own station with them: a handful of sand with the sand dwellers; a bit of the vegetation on which you found the herbivore; a piece of old coral for the rock dwellers to find and cling to -- and look for a large chiton or limpet sitting on a small stone and take stone and all rather than forcing (and injuring) the animal from a too-big rock. Note whether they are feeding and if so take samples; if they are not feeding, guess. If you determine their natural food it will help you when you feed them in captivity. Try not to collect fouling organisms along with the things you take as possible food. Later, as you transfer the mollusks to other containers with clean water, examine the material and discard questionable matter.

Bringing them home, do your best to accommodate the mollusks with shallow water with a large surface area of water exposed to the air (three to four times the volume of air to water is a good ratio). A great carrier is a tote bag which can accommodate plastic containers such as the usually oblong vegetable crispers with snug-fitting lids. They are available in various sizes; select them according to the size(s) of your mollusks. Containers should be scalded and aired before use. Line the tote bag with one big plastic bag, set the containers of mollusks in, braced so they won't upset, and if you're travelling by air they will do just fine, hand-carried, for the duration of your trip. If you are travelling by car and have to be on the road a few days, take along enough clean sea water to be able to change the water in the travel aquaria when it seems advisable. If you are carrying "exotics" it is a good idea to carry an air pump, too. A battery pump can be clipped on the top edge of the tote bag during the day and/or used when you stop for overnight. You will soon be able to judge if the mollusks have been gasping for the aeration.

Need an emergency container? Glass is, of course, ideal, but it seems to happen that when you need one you find only such shapes as a tall olive or mayonnaise jar. Don't give up. Fill the jar about one-quarter full of sea water, tilt, slide in your creatures gently, cap tightly, then lay the jar on its side and carry it that way. This position will allow a good surface expanse for natural aeration. (Better put the jar in a plastic bag.)

The chief causes for loss of living specimens seem to be smothering -- either by plastic bags, overcrowding, too-deep unaerated water, or fouling -- and overheating. Aeration has here been discussed; fouling is obvious to sight or smell -- change the water. Too many specimens have been lost from overheating in the field: Whenever possible, use a white or light-colored pail which reflects the light and avoids much heat buildup. If it is very hot, throw a white cloth over the pail. If you have material in a small pail, you might set it in a larger pail, double boiler style, with cool changes of water in the larger, bottom pail. And don't leave the pails in a hot car; set them in the shade under the car when you make a stop of any duration.

Occasionally you may collect a specimen that continues to flail around instead of settling down and clinging. You might just as well return that specimen to its habitat as its stress would disturb the whole aquarium. Then you might find both a carnivore and its natural prey together in your pail. If the carnivore feeds in this strange environment it is a good bet that it will adapt to the aquarium; the same goes for a herbivore that starts to graze even before you leave the beach.

If you are hoping to observe reproduction, and thus want to collect both sexes, remember that in many gastropod species the female is more rotund than a male of the same height.

Incidentally, Melongena and Fasciolaria are NOT recommended for any aquarium holding mixed species, as they are entirely too predatory.

(The above article appeared also in C.O.A. BULLETIN No. 16, June, 1979.)

CYPRAEA LANGFORDI Kuroda, 1938

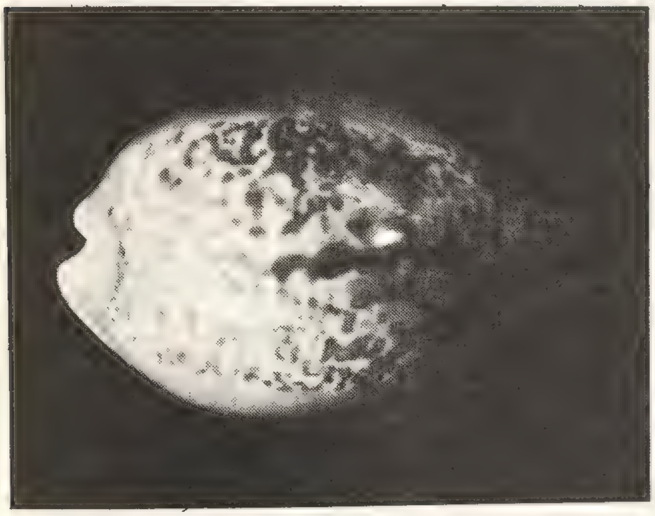
Robert H. Janowsky

I must admit that when I started doing this continuing series about members of the Cypraeidae for this publication I had not intended to write about *Cypraea langfordi*. Quite frankly, it was a species that had little appeal for me, and I felt I could add very little to the few facts known about this rare, deep-water cowrie. The specimen whose photograph accompanies this article changed my mind about *Cypraea langfordi*, since it is without a doubt the most beautiful of its species that I have been privileged to see. For sheer beauty, this specimen can be compared favorably to almost any *Cypraea* that one would care to name.

Cypraea langfordi was first named by Kuroda in 1938 in VENUS, volume 8, pp. 132-133, and has always been a rare species in collections. In his book THE LIVING COWRIES Burgess gives its geographical distribution as the Kii Straits and Tosa Bay in Japan, at a depth of from 40 to 100 fathoms. As is the case with a few other deep-water *Cypraea* from this area, the shell has also been collected in Australia. In 1965 F. Schilder proposed the name Cypraea langfordi moretonensis as a subspecies to delineate the shells found in Australia from those found in Japan. I have found that there are no significant differences between the shells from the two different areas in the rather limited sampling that I have been able to see.

The illustrated specimen was collected at an unspecified depth off Ilan, which is in the northeastern portion of Taiwan, by a commercial fishing boat. The shell measures just short of 48mm in length and has a maximum width of 31mm and a height of 24mm. The most striking feature of this shell is its color and pattern. The dorsum is very light coffee-colored and strongly flecked with darker brown. The callus, dorsal band and base are very bright orange. The interior of the shell is white, as are its teeth. Overall, this specimen is quite a bit lighter in color than the one from Tosa Bay that Burgess illustrates in his book (p. 54, Plate 3, figs. D1 and D2). The dorsum of his specimen also seems to have darker brown speckling and the dorsal band looks more brown than orange. Also, the base of his specimen is darker and is white surrounding the teeth, whereas on the specimen seen here the orange color continues to the teeth. The columellar groove is simple and smooth and has several strong inner denticles near the anterior canal. There is a strongly developed terminal ridge beyond which a deep sulcus is formed on the columellar groove. There are 29 well developed teeth on the columellar side and 26 more strongly developed teeth on the labial. The aperture is simple and slightly recurved towards the posterior end of the columella. It is in all a most striking and desirable specimen.

I do not consider the fact that this specimen was collected in the Republic of China rather than in Japan to be of any great significance. I have in the past seen several other specimens with just "Taiwan" given as the general data. Unlike several of the other deep-water species, though, this species, to the best of my knowledge, has not yet been found in the Philippines -- although I have every reason to suspect that it someday will be.



Cypraea langfordi Kuroda, 1938

L:48mm, W:31mm, H:24mm

Specimen in the collection of
Mr. and Mrs. P. Maltese
Chamblee, Georgia.

Photograph by Robert Janowsky

MARY WEISS

We report the death on August 25th of Marilyn (Mary) Weiss after a long and tragically wasting illness.

Our condolences are extended to her husband, Sol, and their families.

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FOUNDED JAN. 1949

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NEXT MEETING: SUNDAY, NOVEMBER 11, 1979, at 2:00 pm

PROGRAM: MOLLUSKS OF MANHATTAN
by Bruce Einsohn

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NOTES ON THE DISTRIBUTION OF LAMBIS ARTHRITICA, CHIRAGRA, CROCATA and RUGOSA

R. Plotkin

(A letter dated 29th May, 1979 from Dr. Ronald Plotkin of Johannesburg, South Africa, to Dottie and Bob Janowsky.)

I have been working my way through the shells that I brought back with me from my diving holiday, and I have come across one other very interesting situation which you might care to add to the letter that you are going to publish in your shell club news. (See: NYSC NOTES No. 254, p.5; 255, p.1 -Ed.) In fact, I might even write a short article for Hawaiian Shell News on this, as it must be of some interest to Lambis collectors.

In Indo-Pacific Mollusca, Abbott states that there are three forms of Lambis chiragra: the western Indian Ocean form, arthritica, being uncommon, which is certainly not my experience. I have collected it in fair numbers in Moçambique, Mauritius, and the Seychelles. Whereas the Lambis crocata is regarded by him as being common, and which I have found only once. Also, judging from fish markets, curio shops and the like, one sees arthritica much more commonly than one sees crocata being offered. However, that is a small point. More important is that he considers arthritica to occupy an area as far east as the Maldive Islands, and rugosa, the other variety (apart from chiragra itself) being found no further west than the Bay of Bengal. He does admit that E. A. Smith reports chiragra from the Maldives, but believes this to be a misidentification.

I collected quite a number of chiragra in four to six feet of water on sand amongst coral rubble, and saw quite a few offered by native fishermen and in the curio shops. Of those that I collected personally, I returned all but two to the sea, but I am absolutely sure that all were the same. Further, I am also sure that they were the same as those being offered for sale. When cataloging them this last weekend, it was quite clear to me that they were very different from the arthritica that I already have from other areas in the Indian Ocean. I had already noticed these differences while on the Maldives, but thought that they were simply larger shells with better colouring. But on reading Abbott's detailed descriptions, it is quite clear that nearly all of the distinguishing features of rugosa are present in the specimens. We therefore have a range extension of this variety well into the northern Indian Ocean, and I certainly saw no typical arthritica in the same area.

I have always believed that Abbott's remarks about sexual dimorphism in this particular species were rather illogical remarks. To believe that all the Pacific species were female and all the western Pacific specimens are male shows a singular lack of appreciation of reproduction in a biologist! Examining arthritica, rugosa, and chiragra together, especially those specimens which I collected on the Maldives, it seems to me that we have here a western form in the Indian Ocean, an eastern form in the Pacific Ocean, and an intermediate form between the two. But then perhaps I am making too much of too little.

Of CYMBIUM CUCUMIS Röding, 1798

We are pleased to receive the following field note from Yves Rouget, Association La Faune Marine (NYSC member), 94 rue de l'Epine, Grosage 7971, Hainaut, Belgium. His letter, addressed to our club, is dated the 2nd of August, 1979:

Dear Sirs,

This year I spent my holiday at Agadir, a town of south Morocco, along the Atlantic Ocean. For my stay in this place I walked along the beach each day and at low tide I was able to find one or two specimens of Cymbium cucumis, which is a very attractive shell and not very common. I have been very surprised at how big the animal is compared with its shell. For instance, for a shell of about 18cm the weight of the animal is more than one kilo!!!

I give you this information for the members of the NYSC visiting Morocco: Along the beach of Agadir, boys sell living Cymbium for about one dollar (never give more). The trouble is to take off the shell from the animal, which flesh is very hard. As the shell is fragile, one needs to use a good knife or, better, a saw.

Yours truly,

Yves Rouget

A NEW FIELD GUIDE

Houghton Mifflin Company, publishers, announce a new volume in the Peterson Field Guide series: A FIELD GUIDE TO THE ATLANTIC SEASHORE from the Bay of Fundy to Cape Hatteras, by Kenneth L. Gosner. The flora and fauna of the Atlantic coast...1047 species of marine and estuarine life, over 1000 illustrations (line drawings, 12 color plates), detailed habitat descriptions; 329 pp., 33 of which are devoted to mollusks. $12.95, available at the museum bookshop.

A COLLECTOR OF MINIATURES

In the Jacksonville (Florida) Shell Club's publication SHELL-O-GRAM 20(5) p.4, May 1979 we found an article entitled "Another Chapter in 'Shells are where you find them'." The author is Harry G. Lee, who reports on the findings of John Fatu, science teacher who, while on a field trip to Cedar Key last December, "gathered a potpourri of marine organisms as teaching aids" that included two living batfish. The larger of the two batfish was still alive at the time of the report; the smaller one, about five inches long, died on the second day of captivity. Mr. Fatu dissected its digestive tract and recovered a total of 129 recognizable molluscan specimens of small species that would range from 4mm to 12mm when adult. It would be interesting to screen in the area the batfish were taken.

It was not mentioned whether or not there was material, crustacean or otherwise, ingested along with the mollusks listed below, or if any of the shells were in good condition. The species found were:

Crepidula plana Say, 1822	2	specimens	0	juvenile
Nassarius vibex (Say, 1822)	14	"	14	"
Anachis ostreicola Melville, 1881	2	"	0	"
Mitrella lunata (Say, 1826)	45	"	19	"
Olivella pusilla (Marrat, 1871)	34	"	1	"
Kurtziella limonitella (Dall, 1883)	2	"	1	"
Pyrgocythara plicosa (C.B.Adams,1850)	29	"	14	"
Acteocina canaliculata (Say, 1826)	1	"	0	"

Dr. Lee contacted Robert Wagner, of Marathon in the Florida Keys, whom he recalled as having made similar observations. Mr. Wagner reported that he "has seen some 52 species from 50 batfish taken off the Florida panhandle." The batfish is described as a "mini-monster" and "a malacophagous machine" -- both quite apt as anyone who has ever seen one can attest to the first, and the above record of 129 mollusks in the digestive tract of a five-inch fish evidence of the second.

This batfish is not to be confused with the skates and stingrays which are also frequently called "bat fish." This minimonster belongs to the order Pediculati, as does the equally unattractive angler fish. It lives on the bottom and "walks on its elbows."

In their paper, "Records of Marine Mollusks Eaten by Bonefish in Puerto Rican Waters," NAUTILUS 76(4) 115 ff., Germaine Warmke and Donald Erdman observe that of many authors reporting on the mollusk-feeding habits of fishes, relatively few have identified the mollusks as to species. Their report of food material found in 272 bonefish (*Albula vulpes* L.): 51% clams, 5% snails, 31% crabs, 11% shrimp, 2% other. From the contents of 56 fish they identified 37 mollusks, the majority fragile bivalves, and most often 2 to 9 species per fish, with *Codakia costata* the favored mollusk and Tellina caribea running second. Turbo castanea was far in the lead among gastropods.

The writers remark that the bonefish is not recommended as a source of rare shells as, first, the species they feed upon are invariably quite common, and, second, the majority of the shells are fragmented during ingestion. The same can be said for our local blackfish, or tautog. Recently we had the occasion to examine a fresh-caught one. Its stomach was stuffed with blue mussels (Mytilus edulis) of about an inch and a quarter in length and positioned end to end. The shells had not yet been eroded by digestive juices, but were thoroughly cracked and/or fragmented.

dr

CATCHING MOLLUSKS ON HOOK AND LINE

John Root

Ranging from an established fishery to a casual accident mollusks can be and are caught on hook and line. Freshwater pearl shell once used extensively for manufacturing buttons is now used in great quantities for pearl blanks in Japanese cultured pearls. The blank is inserted in the Pinctada martensii and when coated with natural nacre becomes a cultured pearl. Several thousand tons of freshwater pearl shell are used each year for this. Practically all are caught on hook and line.

This is how it is done: the hooks resemble miniature four-pronged grapnel anchors similar to anchors used on small boats here in Florida. They are dragged in clusters downstream along the bottoms of rivers and streams in the freshwater mussel territory. The mussel lies half in/half out of the bottom -- the opening of his shell parallel to the current so that detritus will drift across his siphon. When a hook enters his shell, the mussel clamps shut so tightly that he is dragged along the bottom until the fisherman thinks he has enough shells on his rig to be worth pulling in.

Octopus are caught occasionally while fishing for something else. They have been known to strike a moving feather lure. This may or may not be desired. Some people eat octopus; some people don't know how. Squid when numerous will strike a bait readily. Large squid, three and four feet long in the Humboldt Current off South America, are a nuisance to game fishermen and are dangerous to pull into the boat.

Any other mollusk that takes food in sizable pieces could get caught on a baited hook. Olives and Cones are examples. One of the few black Olives from Florida was caught in Port Everglades by a pompano fisherman. A bivalve with his shell open when it should be shut could find himself caught on a hook. In fact, a very nice Spondylus americanus was caught off Palm Beach some years ago by a commercial fisherman. Doubtless many a nice oyster had broken the line and escaped from a fisherman who hocked him while fishing for something else.

Mollusks can be caught on hook and line with deliberate intent, lucky accident, or unfortunate luck.

SEAFARI 7(6)8, June 1965,
Palm Beach County Shell Club

C.O.A. WINNERS NEW MEMBERS

The Grand Trophy awarded by the Conchologists of America at various shell shows was accompanied this year by an additional prize of a year's subscription to these NEW YORK SHELL CLUB NOTES. We are pleased to add, in this way, our congratulations to the winners, whose studies and labors have resulted in outstanding entries as judged by the C.O.A. Awards Committee under the chairmanship of Dr. R. Tucker Abbott. To our knowledge at least fourteen shell shows have been held to date in 1979, with nine Grand Trophy Awards. The winners, whom we welcome as corresponding members, are:

Gene D. Everson, 1660 SW 27th Ave., Fort Lauderdale, Florida 33312 for his exhibit "Seashells of the Americas" at the Astronaut Trail Shell Show January 19-21. (Could almost have been entitled "Shells of the Western Hemisphere.")

Violet and Charles Hertweck, 637 Sheridan Drive, Venice, Florida 33595 for their large and varied display of shells of one family, Pectinidae, at the Broward County Shell Show February 2-4.

Harry and Edith Chippeaux, 1308 Biltmore Drive, Fort Myers, Florida 33901 for their exhibit at the Naples Shell Show February 16-18. Theirs was a large and detailed scientific display containing practically all the species in the family Strombidae.

Neil M. Hepler, 435 South Federal Highway, Deerfield Beach, Florida 33441 for his educational exhibit at Sanibel's Shell Fair March 1-3. His extensive, in depth study, "The Chambered Nautilus," won awards also at the Broward and St. Petersburg shows. The exhibit is now in the Delaware Museum of Natural History.

James E. Cordy, 385 Needle Blvd., Merritt Island, Florida 32952 for "Self-Collected Marine Mollusks of the California, Panamic and Caribbean Provinces." This was presented as the joint effort of Mr. Cordy and his wife, Bobbi, at the Central Florida Shell Show held at Winter Park March 9-11.

Peter G. Sheasby, 71 Courtington Lane, Bloxham, Banbury, Oxon OX15 4HS, England, for his entry in the Visual Beauty-Shape Category at the British Shell Collectors Club Annual Show in London in April. His "Spiral of Murex" was a most attractive display of specimen shells on a spiral stand which in itself suggested a shell shape.

Marjorie and R. Wayne Stevens, 1835 NE 16th Ave., Portland, Oregon 97212 for an imaginative exhibit, "Theme from Genesis," with pairs of mollusks approaching and entering the ark, at the show of the Oregon Society of Conchologists June 2-10.

Margaret and Archie L. Jones, 4370 SW 14th Street, Miami, Florida 33134 for their excellent exhibit of Liguus at the Jacksonville Shell Show July 28-29. Mr. Jones is well-known for his many years' work with Liguus.

Sally A. Payne, Route #4, Box 462A, Decatur, Alabama 35603 for her exhibit at the Indianapolis Regional Shell Show. We have no date or description.

(We will publish 1980 shell show dates as they are received. -Ed.)

CYPRAEA BARCLAYI Reeve, 1857

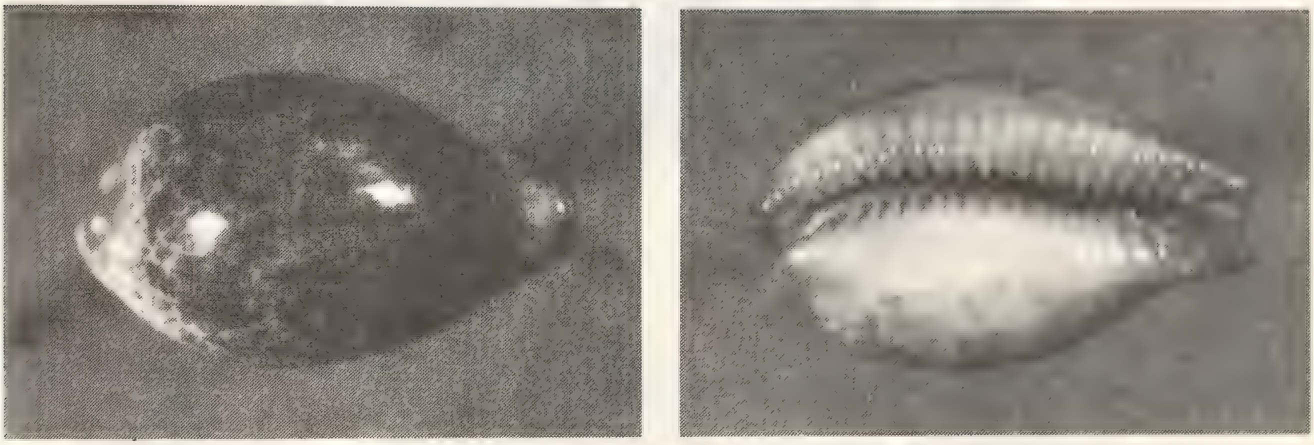
Robert H. Janowsky

There is perhaps today less known about this rather small Cypraea than any other species that I have discussed in previous issues of this publication. I am unaware of any studies ever having been made on the animal, and there is almost no information about its range or its habitat. In the 122 years since Cypraea barclayi was described, very few specimens have come to light -- I would venture a guess that fewer than 12 specimens of this shell are known today. Apart from the specimen figured here I can locate only two other specimens in this country -- those in the collection of the Delaware Museum of Natural History.

There is no question about the validity of this species: Cypraea barclayi is totally unlike any other Cypraea that I am familiar with. Reeve in fact states in his description of the shell that it is "perfectly unlike any of this favorite genus hitherto known." Burgess, too, states in his remarkable book, THE LIVING COWRIES, "though it is a unique shell, it is so obviously different from all others that there is no question about its species rank." The specimen that Burgess illustrates in the above work (Pl. 23, Fig. C) is the type specimen, the only specimen known at the time of the publication of his book (1970). The same specimen, which is housed in the Cambridge (England) Museum of Comparative Zoology, is also illustrated by Taylor and Walls in their book, COWRIES, copyrighted in 1975. This shell (the type specimen) measures 25mm in length, 16mm maximum width, 14mm maximum height. The shell illustrated here is slightly smaller, measuring 22mm in length, 13.6mm maximum width, 11.7mm maximum height. Both specimens appear to be fully adult, but the specimen here illustrated seems to be very much darker in color than Reeve's type. Perhaps the type specimen has faded somewhat over the years. At any rate, in the fresher specimen the orange-brown spotting of the dorsum is much more dense and intense in color than in the type specimen. The spotting disappears at the marginal lines and is not present on the base. The base and margins are creamy tan in color but the dorsum is of an overall shade of orange-brown that is almost as dark as the spots. The canals and surface of the labial teeth are orange. The teeth most closely adjacent to the siphonal canals also have an orange surface on the columella side but are cream-tan toward the central portion. The interstices between all of the teeth are the same color as the base. On the labial side of this specimen there are twenty strongly developed teeth which extend almost to the margin. On the columella side there are twenty-two teeth (including the terminal tooth); they extend about half-way onto the columella which is otherwise simple, slightly inflated, and has a well pronounced sulcus at the anterior end.

Reeve reports that his type specimen was collected from a block of coral brought up in a dredge from "deep water" off Diego Garcia, a small island approximately in the middle of the Indian Ocean. The specimen illustrated in this article was collected ex pisces in December of 1978 from off the Zululand coast, Natal, South Africa, a distance of several thousand miles from Diego Garcia. The specimens in the Delaware Museum also have a South African origin. To date I know of no other specimen found in Diego Garcia despite a great interest in shelling by many scuba divers who are stationed at the US Military Base there. I suggest that it is possible that Reeve's specimen is mislocated, since Diego Garcia was a frequent water and fuel stop for sailing ships, the sailors who manned these ships were not too careful about keeping records of where they acquired their specimens, and were not above supplying false but more "exotic" locality data for shells if they felt it would entice higher prices.

This specimen, despite being ex pisces, has a remarkable degree of gloss on all of its surfaces, which suggests that the fish was caught not long after the shell was swallowed. I do not know from which species of fish this shell was taken, but general experience has shown that the fish that do swallow and feed on Cypraea are bottom-feeders, dwell in deep water, and are rather localized in their habitat. All of which suggests that it is a fairly safe assumption to extend the range of Cypraea barclayi and perhaps center it off Natal, South Africa.



Cypraea barclayi Reeve, 1857

22mm L, 13.6mm W, 11.7mm H

Specimen in the collection of,
and photograph by
Robert H. Janowsky

THALASOPSAMMOPHILES

In COASTLINES 10(4)6, July-August 1979 (New York State Sea Grant Institute, SUNY and Cornell University), Linda O'Dierno authors an article, "Denizens of the Deep." It begins: "As the mercury rises during the hot summer months, people just naturally gravitate toward the sea. There hundreds of thalasopsammophiles--better known as beach lovers--gather to collect pebbles, shells and all kinds of King Neptune's treasures!"

We researched the word. It is from the Greek: thalassa = the sea, psammos = sand, philos = loving. Thus thalasopsammophiles = a group of shell club members on a field trip. The adjective is easier: thal'-as-soph'-i-lous = inhabiting the sea or its shores; fond of the sea. dr

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The NEW YORK SHELL CLUB meets on the second Sunday of each month, September through June, in

ROOM 426, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, DECEMBER 9, 1979, at 2:00 pm

PROGRAM: SOME CONES AND OTHER SHELLS THAT STUCK TO MY FINGERS
by Nick Katsaras

DISPLAY: SPECIMENS FROM THE COLLECTION OF MARIE SUSSMAN

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NOTICE

The editors of the NEW YORK SHELL CLUB NOTES apologize to Dr. R. Tucker Abbott for an unwarranted statement in last month's issue of the NOTES (No. 256.2) in a letter by Dr. Ronald Plotkin. As a trained biologist and a leading figure in the world of zoology, Dr. Abbott would never have "believed" that "all the Pacific species (!) were female and all the western Pacific specimens are male." We regret exceedingly that this absurd statement by Dr. Plotkin -- based upon a careless misreading of Dr. Abbott's published remarks -- was permitted to appear at all in these NOTES and, moreover, without a footnote containing a correction. We owe Dr. Abbott our most humble apologies.

The Editors

ON FIELD OBSERVATIONS BY AMATEUR COLLECTORS OF SHELLS

Amateur shell collectors have frequently made important contributions to the progress of malacology. Indeed it may be said that without data provided by such amateurs, many areas of malacological knowledge would even now be incomplete and/or incorrect.

However, if an amateur does make field observations which apparently are in sharp contradiction to the published remarks by a professional in the science, it appears to me to be the scientific -- and even moral -- duty, before he rushes his observations into print, to get in touch with the professional (provided, of course, he is still alive) to check with him on the newly discovered data.

One of two things can then happen: the professional will acknowledge the addition to scientific knowledge and urge the amateur to submit his data for publication, or he will point out where the amateur's observations might be faulty. In the second instance a great deal of erroneous data or faulty conclusions will never see the light of day.

M. K. JACOBSON

HIGHLIGHTS OF THE OCTOBER MEETING

President Fred Cannon noted that Willie Antonowitz, whose status had changed from active to corresponding member when he moved to North Carolina, was among us for the first time in six years. Next, Fred told of receiving a letter from Karl Jacobson, with the news that Pinky (Mrs. Jacobson) had had a pacemaker implanted shortly after their return to Florida, and was doing fine. Fred also reported that Ethelyn Woodlock was moving to Florida.

Fred announced that he would like to devote several programs to the subject of handling a shell collection. Speakers' topics, he suggested, might include cataloging, shell cleaning, storage and display, labeling, acquiring shells, and keeping live specimens. His request for members' reactions brought strong favorable response. He asked for additional suggestions, and got two: starting a shell library, and fossil collecting.

Two visitors, a couple from Portugal, were introduced. They had brought with them, for display, four specimens of Conus delanoyi, from St. Vincent Island, Cape Verde Islands. Sol Weiss had on display a number of Voluta musica collected by himself. The specimens had been selected to illustrate the variability of the species.

The speaker was Bill Old, who had assembled a large group of close-up slides of shells representing the various categories of rarity. As he identified each shell, he added comments on the reasons for its rarity, and the movement of the species through the channels of scientific and amateur collecting. Bill cited the categories of rareness as: Biological (inaccessible habitat); Economic (limited supply, strong demand); Residual (formerly rare, and still considered so); Tomorrow's rarity (shrinking supply); Local (rare among collectors in certain parts of the world); Individuals (freaks, variations, etc.); "Rareshell" (one word, in the mind of a novice who has a shell he hasn't identified).

Bill Old showed a slide, accompanied by commentary, taken at last summer's AMU meeting in Corpus Christi.

Milton Werner, Recording Sec'y.

More on "A COLLECTOR OF MINIATURES"

Last month (NYSC NOTES 256.3) we reported an article by Harry G. Lee on the many small mollusks found in the digestive tract of a 5" batfish. There were 129 recognizable specimens of 8 species. We wondered if any were in good condition, and in response we have this further note from Dr. Lee:

"...Most specimens were intact, half were gem, but luster was dull on about half of the Olivella and Mitrella. Several shells were crabbed. We have examined locally-caught groupers, toadfish, etc. and shall publish findings in an upcoming SHELL-O-GRAM."

A TIGER IN YOUR TANK

George A. Hanselman

One of the most fascinating of the many species of chitons to be found in the San Diego area is Placiphorella velata Dall, 1879. Its various common names give an inkling of the reason: the "jockey cap" chiton (because the wide girdle extends to a broad "peak" at the forward end), the "veiled chiton," and as will appear later its peculiar structure, amazing habits and versatile appetite well merit the term "trapper chiton."

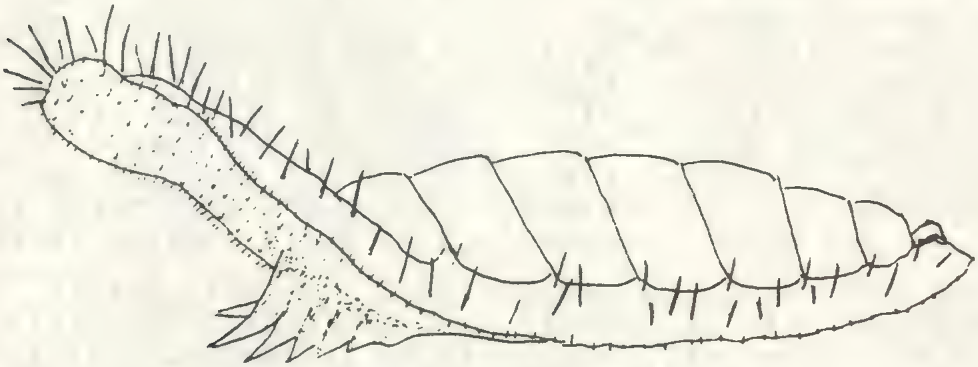
This is illustrated by the experience of Dave Mulliner. While SCUBA diving with Gordon Robilliard at a 60-foot depth along the kelp beds off Point Loma, Dave turned over a large rock and while surveying the many brittle stars, sea urchins, sulphur sponges and juvenile abalones which called the bottom of that particular rock home he noted that among the crowd there was one particular small abalone which didn't look quite right. To check it he slid it carefully off the rock, and bingo! --- a large (60mm by 50mm) Placiphorella velata! Dave placed the chiton in his aquarium --- adding a second slightly smaller one which he found a week later in the same location --- and began observations on their feeding habits.

Past researchers had determined by inspection of the gut content that unlike the vast majority of chitons, which almost universally feed on algae which they rasp off rocks with their radula, the Placiphorella were at least to some extent carnivorous and included sponges and hydroids in their diet.

Dr. James McLean of the Los Angeles County Museum of Natural History, himself a highly skilled SCUBA diver, some years ago undertook continuing in-place observation of Placiphorella velata living at depths of 20 to 40 feet in the Monterey Kelp beds. The results of this scrutiny he published in a paper titled "Feeding Behavior of the Chiton Placiphorella" (Proceedings of the Malacological Society of London, Vol. 35, Part 1, 1962), in which he describes the chiton's use of its wide front mantle flap as an actual capture device to seize small amphipods and crustaceans for food.

The Placiphorella as a genus are unique in their possession of a set of tentacle-like lobes or digitations located just ahead of the proboscis. They also possess on their abnormally wide front girdle flap nerve-bearing setae and papillae, respectively on the top and bottom of the mantle. As a Placiphorella velata sits in its permanent position on its rock it raises its mantle flap and extends the tentacular structure underneath it (see illustration, p.). Any contact with these structures causes the mantle flap to clamp down, immediately and rapidly, so as to trap any moving object which may have made the contact. The forward edge of the mantle then begins to move the trapped object back toward the proboscis, and the tentacle-like lobes appear to assist in this process. Should no food be trapped, or should the trapped material be deeded unsatisfactory after sampling, the mantle flap is again raised and the trap reset. Dr. McLean noted that the chiton uses this same feeding technique in the aquarium as well as in its normal habitat. He also noted that while very small creatures could be ingested at one gulp, a small crab slightly less than half an inch in width might furnish a leisurely 24-hour snack.

With the above in mind, Dave soon found an acceptable diet for his captives. Tiny brine shrimp, which furnished the main staple, were trapped and polished off with gusto --- and with the skill and speed of a cross between Daniel Boone and a Hoover vacuum cleaner. For the salad course, a little algae scraped off the rocks Dave from time to time put in the aquarium gave balance to the diet. And a totally new item was added to prior menu records when tentatively offered shreds of scallop were seized with alacrity and downed without hesitation. Under this feeding regimen the two chitons survived in the aquarium for well over six months.



Placiphorella velata Dall, 1879 (Size exaggerated)
in feeding position
(After McLean, reproduced in FESTIVUS)

Although all Placiphorella possess the same mantle and tentacle structure, Placiphorella velata so far is the only species sufficiently accessible in the intertidal zone (where it is rare) and the relatively high subtidal (where it is at best uncommon) to have furnished specimens for comprehensive observation of its feeding habits. Assumedly all species of the genus can feed in similar fashion if suitable live prey is available. For those species living in greater depths --- and Placiphorella have been dredged from depths of over 500 meters --- the availability of such prey is somewhat speculative, but a diet of sponge and hydroids has shown in the gut content of dredged specimens.

Placiphorella velata ranges from at least western Vancouver Island on the north to beyond Punta Banda on the south; I have collected it intertidally at both these extremes. It has also been reported as far south as Magdalena Bay, on the outer coast of Baja California. At the northern portion of its range it appears well up into the low intertidal, but like so many of the northern mollusca, as the water warms toward the south it appears then to prefer deeper and consequently colder situations. Its intertidal tolerance seems to drop off quite abruptly near Monterey, where the cold northern upwelling decreases, and it could be expected to resume to at least a slight degree to the south of Punta Banda where another cold upwelling begins. But in the San Diego area, as indicated by the following collecting records, deeper water seems the preferred habitat.

Locally, the known score stands:

Edna Wilson: 3 small specimens taken intertidally in the early 1930's.

Carolyn Stover: 1 specimen from 75 feet, off Pt. Loma in 1971.

John Myers: 2 specimens from 75 feet, off Bird Rock in 1971;
1 specimen from 70 feet, off Bird Rock in 1973;
1 specimen from 55 feet, off Pt. Loma in 1974.

Dave Mulliner: 3 specimens from 60 feet, off Pt. Loma in 1974.

Myself: 1 small specimen intertidally in 1970.

Interestingly enough, in intertidal situations adults of this chiton usually become heavily encrusted with marine growths which extend over the top of the girdle and there become matted with the larger setae. This jungly surround them becomes home to various small marine creatures, among which are usually a supply of tiny amphipods. It seems quite possible that *Placiphorella velata* may be raising some of its own food. A trapper chiton with --- literally --- a ranch on the side: a versatile creature indeed!

From: FESTIVUS, *VII*(1) 3-6, Publication of the San Diego Shell Club. The report was illustrated by photographs, taken by David K. Mulliner, of the living *Placiphorella velata*.

OTHER CHITONS, OTHER FOODS

The large family of Chitons is generally herbivorous, browsing fine algae and along with it ingesting bryozoans and diatoms. The *Placiphorella velata* of the above article, the "trapper chiton," is a fascinating exception. Several years ago we made aquarium observations on two other species which demonstrated variations in feeding habits. We quote from the AMU Annual Reports for 1967: (Since then the name of *Ischnochiton floridanus* has been changed to *Stenoplax floridana*, and *Nassarius obsoletus* to *Ilyanassa obsoleta*.)

"...Empty mussel valves found tucked in under the bottom edges of stones were the first indication that *Ischnochiton floridanus* Pilsbry might not be entirely herbivorous. After some quiet watching the *Ischnochiton* was seen to emerge from the underside of a stone, clamp its anterior end on the mussel meat, then reverse its direction dragging the food back under the stone as far as possible. The observation was duplicated with another specimen of *I. floridanus* in another tank.

A second species generally herbivorous, *Chaetopleura apiculata* Say, was observed to feed on egg cases deposited on the walls of the aquarium. One specimen fed on the egg cases of *Prunum apicinum** Menke then present; currently other specimens have frequently fed on newly deposited and developing eggs of *Nassarius albus* Say and *N. obsoletus* Say. These did not appear to be "accidental" feedings while grazing, as the chitons would twist and turn to center in on the egg cases."

The excerpt is from "Notes on Captive Leucozonia nassa Gmelin, Chaetopleura apiculata Say, and Ischnochiton floridanus Pilsbry," by Dorothy Raeihle. Annual Reports for 1967 of the American Malacological Union, pp. 13-14.

*(Prunum apicinum is now Marginella apicina.)

dr

RETURN OF CLAMMING IN STATEN ISLAND WATERS?

Last April 1st the Staten Island ADVANCE announced the beginning of operations of a purification plant for hard shell clams (Mercenaria mercenaria) taken from waters of questionable cleanliness. They wrote that the local waters had not yet been certified by the State Department of Environmental Conservation and were still classified as "closed areas," but that the agency was permitted limited clamming under strict monitoring for the new purification plant which was owned and operated by the Great Kills Shell Fish Corporation. "Under the new process...salt water is pumped into polyester-lined tanks, where it is filtered continuously through corrugated boards and piping. After 48 hours, the clams are purified and considered edible."

We have up-to-date news from Mathilde Weingartner, who writes: "Yes, the clam purification plant is still active. They even had a piece on TV news, channel 5 about 10:30 pm, October 24th. They are actively clamming; a boating friend of mine says that their clamming boats are labeled with big placards (I don't know if they clam with a pressure hose?). They wash the clams for 48 hours with salt water, and also irradiate them with ultraviolet. They send samples from every batch to the NYC Health Department laboratory at Seaview Hospital. So far only one batch has been found not to be clean (tested for B. Coli.) and that's after running this operation for two years. They claim that Staten Island waters are full of clams.

The disease for which the clamming industry was closed in 1961 was hepatitis."

dr

A SEARCH FOR AMPHIDROMUS

Renate Wittig Skinner
38 Barnes Street
Windy Ridge
Greenville, N.C. 27834

(Renate Wittig Skinner worked in Thailand for many years and would take several trips a year to Indonesia to collect shells, thus acquiring a good background knowledge of the area. --R. Janowsky)

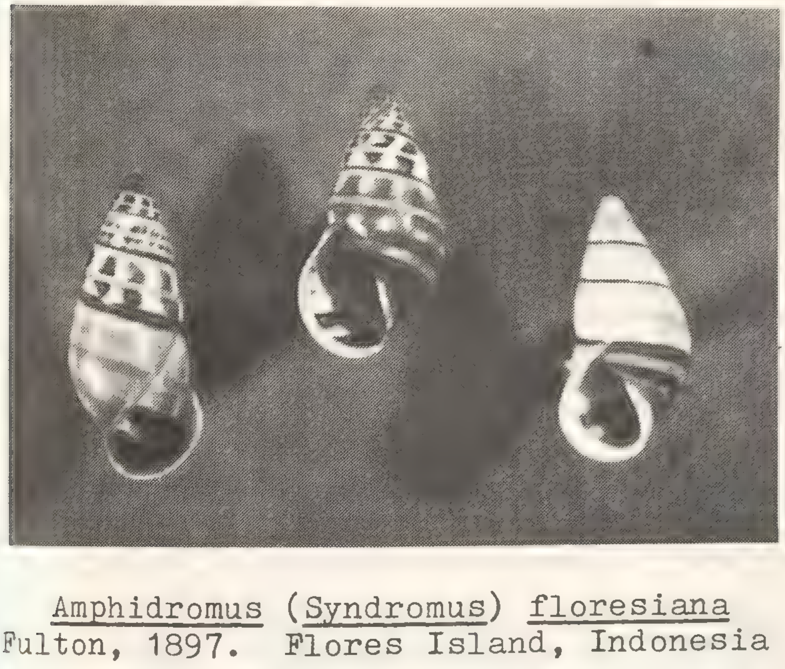
Since the end of June we are back from our long Asia trip. I did the Indonesia trip alone, but met twice with my husband, Ed, during that time. My trip was the most difficult one I ever made, because of increasing transportation difficulties.

Indonesia, at least the part where I travel -- Lesser Sunda Islands, Flores (Island), and Banda Seas -- has had several heavy eruptions, particularly close to the sea and in the sea, where even a mountain emerged and during the last two years is steadily sinking back. Parts of the roads are also sinking after the earthquake in 1977. On January 17, 1979 a severe earthslide took place in Flores due to flash floods which had filled the crater of an inactive volcano; due to the mass of water it broke out at nine places, covering mountain villages, plantations, gardens, all the way down to the beach and into the sea. Seven of the outbreaks affected the roads I usually travel. Schools, however primitive, were completely covered, smaller buildings pushed and crushed. Sometimes I saw only the top of a coconut tree looking through the dirt-masses. Huge boulders came down and moved within the slides.

Close by and partly affected is the habitat of that beautiful snail, Amphidromus floresianus. After searching three days I had to give up. What had not been covered with masses of earth was covered with a very dense growth of thorny creeper. The little trees where A. floresianus likes to stay were dead, most probably due to that matting creeper which seemed to strangle everything. I had one plantation worker with me, besides my Balinese protege who traveled with me. The worker cut the path for me to get to the area. We did at several places cut and draw back the creeper-mat like a curtain. I was surprised to find at the underside of the creeper whole colonies of another snail (not pretty), with a very thin shell which looks interesting as long as the animal is in it. Sort of black-white-rust checkered. The local people consider it poison. I had found a few of these snails years ago and knew about but could not identify them. Now it seems to rule that area. I brought some for Dr. Alan Solem and will tell him all about it, and that I think it may be responsible for the absence of Amphidromus.

Another thought crossing my mind is that I have never received any positive answer as to whether the identification of the Amphidromus is 100% correct. I had this snail for two years in Brussels, Belgium without results and just last year took the animal back and sent it to Alan Solem, as you know he is No. 1 in the USA for Amphidromus. As yet he has made no comments.

According to the original description,* the shell should have a purplish lip -- which it has not -- but as to location it must be Amphidromus floresianus -- or a new species.



Amphidromus (Syndromus) floresiana Fulton, 1897. Flores Island, Indonesia

*See: The Land Snail, Genus Amphidromus, A Synoptic Catalogue, by F. F. Laidlaw & A. Solem. Fieldiana: Zoology 41(4)569 + 516, Aug. 24, 1961, Published by Field Museum of Natural History, Chicago, Ill.

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These NOTES are distributed by mail to all members of the NEW YORK SHELL CLUB, INC. Dues: Full membership $5.50 per year, $1.50 additional for each of other members of the same family - - with one copy of NOTES per family. Corresponding membership $4.00 per year. A limited number of back issues of the NOTES are available at $.45 postpaid per single copy; also bulk rates. Items and articles for publications in the NOTES should be sent to the Editor. The corresponding Secretary should be notified promptly of any change of address.

NEW YORK
SHELL CLUB
INC.

FOUNDED JAN. 1949

December 14, 1979

Dear Friends:

The New Year and Holiday Seasons are almost upon us, and I want you to know how much I've enjoyed working with all of you these past few months. I am looking forward to the start of a new year and a new decade at our club that will interest and stimulate all of us.

The first meeting of the new year will be on January 13th and will start our new monthly series of short, informal talks on "Collecting Shells." The subject of the first talk will be "Obtaining Shells" and will cover the three main areas: self-collecting, trading, and purchasing. The months to follow will include the following subjects:

Cataloguing and labelling
Nomenclature
Display and storage
Forming a library
Photography
Keeping specimens alive
Fossils

Each talk will be followed by a short question and answer period which will include a question box for shy members.

I am very pleased to announce that Mr. Ed Petuch of the University of Miami has agreed to start our new year off with a wonderful, exciting talk, "New and Unusual Species from Brazil, Venezuela and North Colombia." He has lots of surprises for us along with a series of beautiful slides of shells, his travels, and Darwinesque collecting experiences,

I hope you will all brave whatever the weather will bring us on January 13th and come to our meeting to give Ed our support and help get our collecting talks off to a great start.

May you and your families all enjoy your holidays, and I wish you all a Happy, Healthy and Joyous New Year.

Sincerely,

Fred Cannon

NEW YORK SHELL CLUB NOTES No. 258 January 1980 Page 1

The NEW YORK SHELL CLUB meets on the second Sunday of each month, September through June, in

ROOM 426, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, JANUARY 13, 1980, at 2:00 pm

PROGRAM: To start the new year we will have a special program. DON'T MISS IT! Edward Petuch of the Rosenstiel School of Marine and Atmospheric Sciences will be our guest speaker. His subject will be: NEW AND UNUSUAL SPECIES FROM BRAZIL, VENEZUELA AND NORTH COLOMBIA.

DISPLAY: Specimens from the collection of Al Scarpetti.

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FURTHER REMARKS ON LAMBIS

R. Tucker Abbott

I feel some corrections and additional explanations are in order concerning Indian Ocean *Lambis* after the remarks by R. Plotkin (see NYSC NOTES, No. 256, p. 1). Firstly, regarding the relative abundance of any marine species, populations vary in density throughout the geographical range of a species and are also subject to seasonal appearances. Nonetheless, both *Lambis crocata* and *Lambis chiragra* subspecies *arthritica* are relatively common to abundant in many parts of their respective ranges, and in my 1961 monograph (INDO-PACIFIC MOLLUSCA, No. 3), on the basis of my own collecting experiences in east Africa and those of others in the central Indian Ocean, I stated that both *Lambis* were common.

The Yale-Peabody Expedition of 1957 found *arthritica* moderately common in the Maldives. It would be interesting to examine Plotkin's specimens to see if, as he claims, true *chiragra chiragra* occurred there also. If it does, and if it shows no signs of intergradation with *arthritica*, it would be best to consider *arthritica* as a full, separate species.

There is, incidentally, a form of *chiragra chiragra* in Sri Lanka which has a very dark, smoothish, dirty aperture. Whether this is ecologic or genetic in origin I do not know.

Some readers of my monograph, including Plotkin, seem not to realize that *Lambis* demonstrates an interesting geographical cline in the degree of sexual dimorphism in the shell. In other words, in one part of the geographical range males and females may have shells showing major structural differences (the form rugosa being an example), whereas elsewhere in the range the sexes may show no shell differences. Plotkin's statement that I believe "that all Pacific species are female and all western Pacific specimens are males" is untrue and absurd.

If, indeed, the specimens that Plotkin obtained in the Maldives were all the form rugosa, it would be interesting to know if they were males or females, or both. I would welcome the chance to examine more specimens in order to clarify this mystery.

In summary, there is one species in this complex, namely Lambis chiragra. In the western Indian Ocean there is the common subspecies, arthritica Röding. (Subsequent evidence that Plotkin offers may show it to be a full species.) In the eastern Indian Ocean (Ceylon eastward) the typical chiragra subspecies chiragra occurs. The form (not subspecies) rugosa (see illustrations of intergrades, IPM, pl. 132) is associated with male specimens commonly at the Polynesian end of the range and rarely throughout the rest of the range. (R.T.A., P.O. Box 2255, Melbourne, Florida 32901.)

NICK KATSARAS, 30-YEAR MEMBER

Probably the addressograph plate did not drop into place when the cards were run through. Certainly it was inadvertent that the name of Nick Katsaras was not on our newly published roster. Nick joined the New York Shell Club on November 27, 1949 and has hardly missed a meeting in all these thirty years. So please enter on your roster the name and address of this very active member:

KATSARAS, Mr. Nick 31 Merritt Ave., Bergenfield, New Jersey 07621

HIGHLIGHTS OF THE NOVEMBER MEETING

The monthly display of shells was provided by Mrs. Waverley Harmon. From her collection she had chosen a number of particularly fine examples of species that are not only uncommon, but uncommonly attractive.

In furtherance of plans for a shell show, President Fred Cannon reported that he had tried to get information about the availability of the room in the Gramarcy Arts Club that the Club had rented for auctions many years ago. The man he will have to speak to was out ill, so Fred will try again. The possibility of using our regular meeting room, perhaps on a meeting date, but starting earlier in the day, was discussed and will be looked into.

The speaker was NYSC member Bruce Einsohn, who described a series of shelling expeditions in "what may be the most-altered area on earth" -- Manhattan. Along the Hudson, Harlem, and East River shorelines he found small areas of tidal flats, heavily polluted, but still home to several marine and brackish-water species, both gastropods and bivalves. On one tiny flat on the Hudson, a few mollusks are neighbors to a sewer outfall. There are many species of land and freshwater snails to be found in Inwood Park and in several areas of Central Park. On the day that he spent in northern Manhattan, Bruce arranged to be accompanied by a scooter-cop.

One reason was that his snooping about could understandably be regarded as suspicious. Another was that the innocent pilgrim in this area does well to regard a certain percentage of the locals with suspicion. Far to the south, on streets like 13th, the collector feels less vulnerable but more out-of-habitat. Nevertheless, Bruce found four species in a small empty lot near Broadway. His Manhattan check list covers sixteen marine species, sixteen terrestrials, and seven freshwater. A few were dead specimens that may have spent their lives in other parts of the world. Bruce estimates that a complete Manhattan check list might show about fifty species.

Milton Werner, Recording Sec'y

AMU 1980

Plans for next year's annual meeting of the American Malacological Union are well underway, with our host club, the Louisville Conchological Society, already engaged in planning... The meetings are scheduled for July 19-25, 1980, in the Executive Inn, a most charming and hospitable motor hotel. Two special symposia will be conducted, one on Feeding Mechanisms in Mollusks, the other on Functional Morphology in Cephalopods. Field trips are scheduled in various freshwater and terrestrial habitats, and a special feature will be the field trip(s) to the extremely rich and important marine fossil bed of which mollusks are a dominant component. A field trip of quite a different nature will allow us to witness the production of and sample one of Kentucky's most famous products... We will experience a bit of the "gentle old days" on a moonlight reception/ cruise aboard the Belle of Louisville, one of the last remaining steam paddle-wheelers.

We will initiate a new feature for amateurs and hobbyists at annual meetings: workshops on selected topics, such as identifying and organizing collections, photography, aquarium maintenance, display techniques, etc. Also, plan on enhancing your library -- we'll have a book and reprint auction conducted by a talented auctioneer...

Clyde F. E. Roper, President, AMU
From: AMU NEWSLETTER, Fall, 1979

Conservation Report -- UPDATES:

While AMU was in Corpus Christi, oil from the Mexican well blowout of June 3rd in the Bay of Campeche was approaching Texas and South Padre Island. The Coast Guard was able to protect the Laguna Madre with some success. Damage is said to exceed $300 million and class action suits have been filed by South Texas commercial fishermen, among others.

Since the Panama Canal Zone has been turned over to Panama, October 1, 1979, AMU should be alert to any future actions on a sea level canal in another location. We should reaffirm our position opposing the possible mixing of Atlantic and Pacific fauna.

Do send me news clippings of conservation problems in your area...

Jeanne Whiteside, Chairman Conservation Committee
Rt. 3, Box 902-G, Merritt Island, Florida 32952
From: AMU NEWSLETTER, Fall, 1979

LETTER TO THE EDITOR

December 4, 1979

I must take exception to the opinion expressed by my good friend, Karl Jacobson, in his article, ON FIELD OBSERVATIONS BY AMATEUR COLLECTORS OF SHELLS, in last month's issue of the NOTES (No. 257).

The premise that amateur shell collectors are obliged to submit their field observations (or any observations) to scientists before publication is untenable. Some of the most profound break-throughs in scientific thought have been expounded by amateurs. Scientists are earthly beings, possessed of all the frailties of mortal men: prejudice, pride, narrow-mindedness and bound and limited by their environments. Had Copernicus followed Karl's advice, the sun and all the heavenly orbs might still be revolving around the Earth! Contemplate upon what would have happened had the monk, Gregor Mendel, submitted his paper on genetics to his superiors. We need not concern ourselves with whether or not Darwin consulted the scientific community before publishing. We had Alfred Wallace ready to carry the banner for the free expression of thought.

Let us not take that giant step back to the Dark Ages when all new ideas had to be submitted to the Supreme Authority - the Church. Let us remember that scientists have no monopoly on intellect and that unlettered men, too, are capable of thought and the ability to reason. Let us suffer a thousand inconsequential publishings of misinformation as the price we must pay for the chance that the next (thousand and one) might contribute to our search for the truth. Let the author publish at his peril!

Archie L. Jones

Archie L. Jones
4370 SW 14 Street
Miami, Florida 33134

SOME NOTES ON THE NEW JOURNAL, BULLETIN OF THE INSTITUTE OF MALACOLOGY TOKYO, AND A FEW COMMENTS ON PTERYNOTUS MIYOKOAE, A NEW SPECIES DESCRIBED THEREIN.

Robert H. Janowsky

It came as a great surprise to me to learn of the existence of a new scientific journal, published in Tokyo, concerning itself exclusively with malacology. I have had a chance now to examine number one of volume one of this BULLETIN, which is published by the Institute of Malacology, 6-36 Midoricho 3 Chome, Tanashi City, Tokyo 188, Japan. One must wonder at the tremendous amount of work and expense that have been put into this project, and one can not help but inquire as to the need for such a new journal with the already fine and flourishing VENUS at hand. Nonetheless, the new BULLETIN seems to be well done and we wish it a long and happy life.

The first issue, published May 30, 1979, consists of 17 pages of text and three black and white plates. I take the liberty of here reproducing the table of contents, as I do not expect that the issue will be widely circulated:

Kosuge, Sadao: Descriptions of Two New Species of the Family Muricidae (Gastropoda, Mollusca) (Plate 1) page 1

Kosuge, Sadao: Descriptions of Two New Subgenus (sic) and Seven New Species of the Genus _Latiaxis_ (Gastropoda, Mollusca) (Plates 2-3) page 3

Kosuge, Sadao: Report on the Mollusca Collected from Ishikari Bay and its Adjacent Waters by the R.V. Tansei-Maru during Cruise KT-67-7 (1967) page 8

Kosuge, Sadao and Kiyoshi Inoué: Report on the Mollusca Collected from the East China Sea by the First Cruise of the R/V Umitaka-Maru in the Year 1970 page 12

The very first shell that is described by Dr. Kosuge as a new species is one that I wrote about several months ago in the Conchologists of America BULLETIN, issue No. 16, June 1979. In my article I treated this shell as a form of _Murex_ (_Pterynotus_) _loebbecki_ Kobelt, 1879, but even this diehard "lumper" must admit that there are enough differences between _P. loebbecki_ and this shell described by Kosuge as _Pterynotus miyokoae_ to justify separation at some level if not at the specific level. Without further pursuing this issue, though, I do wish to point out several differences in regard to this shell between what I have observed and what is reported by Kosuge.

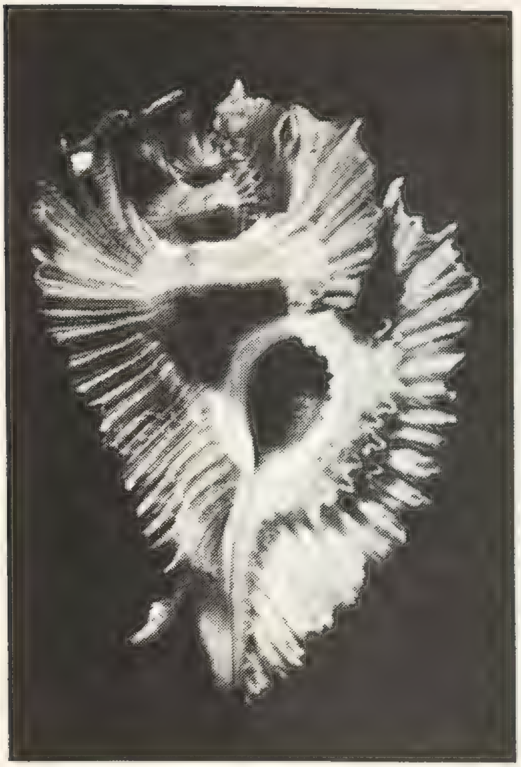
First, let me state that I have at this point had six specimens go through my hands. Kosuge has studied two specimens in addition to his holotype. Kosuge reports that the specimens that he examined were collected off Mactan Island, Cebu, Philippines. All of the specimens that I have examined have been taken off the small island of Samal which is in Davao Gulf, Mindanao Island -- approximately

300 miles southeast of Mactan Island, Cebu. Given the extremely small geographical distributions of several other species of the Pterynotus, such as P. bednalli Brazier, 1878 only from around Darwin, North Australia, and P. phyllopterus Lamarck, 1822 only from Martinique and Guadeloupe in the French West Indies, a range difference of several hundred miles must not be ignored. I have, in the past few years, seen at least two and have heard of several more specimens of P. loebbecki collected from around Punta Engano in Cebu -- but to date have not heard of P. miyokoae from Cebu. It is possible that Kosuge may have been led astray by the fact that Cebu City is now the shell-dealing center of the Philippines, and specimens collected from many of the neighboring islands (such as Samar, Palawan, and Mindanao) are available from the dealers there.

Secondly, Kosuge reports (in brackets) a depth of 200 meters for the specimens that he has studied. As I have reported before in these pages, everyone who is familiar with the nets that are sunk in the Philippine waters to collect shells such as these realizes that the "fishermen" do not give an accurate picture of the depth to which they sink their nets. They report only the length of the submerged cable, which does not drop vertically but drifts down at an angle greater or smaller according to the currents and the buoyancy of the line. This factor may reduce the reported depth by as much as a third, since the nets are not heavy nor are they heavily weighted since heavy tackle to haul them back up is not generally employed.

Thirdly, it has been no secret that for the past several years specimens of a Pterynotus very similar to P. loebbecki have been collected from deep water from off the Russell Islands (part of the Solomons). Closer examination of these specimens will reveal that they are identical in every respect to P. miyokoae except that they are not as brightly colored (they are tan to flesh uniformly instead of the brown and white, or brown and tan, of the Philippine specimens). They do share the same formation of the varices (although they are not as elegantly developed and sculptured) and the white parietal shield which separates (according to Kosuge) this species from P. loebbecki. The parietal shield of P. loebbecki is pink and the varix is notched, formed of two parts rather than the single continuous formation of the varix in the new species. I certainly think that it would have been beneficial for the original description to have included some mention of this shell from the Solomons, too.

The fact that no less of an authority on the Muricidae than my good friend Tony D'Attilio and Dr. Hans Bertsch were preparing a paper in which they were to name what is now Pterynotus miyokoae as a new species adds a great deal of support to the legitimate specific status of this muricid. One must applaud the decision of Bertsch and D'Attilio to publish their carefully researched work on this species as a supplement to Kosuge's description.* I feel that one of D'Attilio's detailed drawings of the varix formation of P. miyokoae would be very informative, a great deal more descriptive than Kosuge's statement: "Each wing is most expanded at the shoulder margin, attached to the base of the varix of the preceding whorl, situating just behind the wing of the preceding whorl, and extends



Pterynotus miyokoae
78.9mm x 42.2mm

almost to the end of the canal. Therefore the wing stands behind the preceding whorl one after another, making twisted screw like appearance."

The illustrated specimen is 78.9mm in length and 42.2mm at its maximum width and is in my private collection. This specimen is 5mm greater in length than the largest specimen reported by Kosuge. I have also examined a specimen approximately 35mm in size, almost 7mm smaller than the smallest reported in the BULLETIN.

*Personal communication.

Additional reading:

"The Rediscovery of Murex phyllopterus Lamarck, 1822," Robert H. and Dorothy Janowsky, NYSC NOTES 203.6 (with line drawings) J-J-Aug. 1974.

"Speaking of Shells," Bob Janowsky, Conchologists of America Bulletin No. 16.1, June 1979 (with photos).

"RANGE" EXTENSION

Fred Cannon

Recently I purchased an 1850 brownstone house in Brooklyn, New York. The house has most of its original architectural details but needed lots of restoration and cleaning. The original cast iron coal cooking range still remained in the kitchen.

During the many weeks and months of hard work I often asked myself, "Why am I doing all this -- is the house and work really meant for me?" When I finally tackled the cleaning of the coal stove I not only discovered heaps of soot, ashes, coal and bricks, but a rather large, fine specimen of the common Moon Snail, Lunatia heros Say.

I guess the house really had my name on it all the time.

OUR THANKS: to Dorothy Janowsky for typing the new roster.

HAPPY HOLIDAYS TO ALL!

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FOUNDED JAN. 1949

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ROOM 426, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, FEBRUARY 10, 1980, at 2:00 pm

PROGRAM: HAWAIIAN ACHATINELLA by Richard Goldberg

MINI TALK: CATALOGING and LABELING

DISPLAY: Nick Katsaras and Richard Goldberg

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YOUR FUTURE IN THE SEA

The American Littoral Society's NEWSLETTER of December, 1979, announces: "The date for the Society's annual "Your Future in the Sea" symposium has been set. It's Saturday, March 29, 1980, American Museum of Natural History, 1-5 p.m., and 8-10:30 p.m. Please save the date."

For information re: program and tickets, write to the American Littoral Society, Sandy Hook, Highlands, New Jersey 07732.

HIGHLIGHTS OF THE DECEMBER MEETING

Among the eight visitors to the meeting was one from Portugal. He is Ilídio Félix Alves, editor-in-chief of "Amphitrite," the periodical of the malacology section of Centro Portuguese de Actividades Subaquaticas. Asked to say a few words, he noted that in Portugal most malacological activity is amateur. There is a group, most of them young, that do what they can to carry out work that the professionals can't fit into their schedules. Of his magazine, he said that his aim is to divide its coverage evenly between the scientist and the hobbyist. He also commented on the recent fire in Lisbon's natural history museum. The malacology department was among those that suffered the most disastrous damage (See NYSC NOTES No. 243, p. 4 -Ed.).

Bill Old and Milton Werner showed slides taken during the 1979 annual meeting of the American Malacological Union, in Corpus Christi, Texas, adding comment. Bill was the 1978-79 president of the AMU.

The month's display of shells was provided by Marie Sussman, who showed a selection of species of Muricidae from her collection.

The speaker was Nick Katsaras, whose subject was "Shells that Stuck to My Fingers." According to his interpretation of this title, he does not steal shells. What it means, he said, is that through his years of buying shells for his famous auctions he acquired many that he couldn't bear to part with. He introduced them by means of slide close-ups and comment. Most of the many dozen that he showed were Cones, and all were superb specimens of exceptionally handsome species.

Milton Werner, Recording Sec'y

REVIEW:

COWRIES

second edition, revised by Jerry G. Walls, 1979. T.F.H. Publications, Inc., Box 427, Neptune, New Jersey 07753. 286 pp., profusely illustrated with color plates. Approximately 5½" x 8½", hard cover. Price $20.00.

I was very pleased to see that there is now available a revised edition of the original COWRIES by J. Taylor and J. Walls, 1975. The original edition has been out of print for several months and since Burgess's work, THE LIVING COWRIES (1970) has also been unavailable the need was pressing for a work on Cypraeidae which would be readily available for collectors. This new edition is essentially an update of the earlier book and includes species that have been named since the earlier work appeared: one will find photographs and references to such species as *Cypraea lisetae* Kilburn, 1975 (a species to be discussed in a forthcoming issue of these NOTES), *Cypraea maricola* C. Cate, 1976, and *Cypraea kingae* Rehder and Wilson, 1975, references which are not readily available in a single work elsewhere. At a quick glance it appears that Walls has done a thorough job of research and every named species since 1975 (valid or not) is treated in the new edition -- with the exception of *Cypraea donmoorei* Petuch, 1979, as this description appeared too late to be included.

One notes that the name of Dr. John Taylor, of the British Museum of Natural History, does not appear on the cover of the second edition, but he authors the first part of the book with an excellent section called "The Living Cowry." This first section gives us a general look at the living animals, their history, and uses by man. The second section of the book is authored by Walls and is called "Cowries and the Collector" and contains some useful information on keeping *Cypraea* in an aquarium as well as building and curating a study collection of these shells. The third section is one that collectors will find most useful and is entitled "Color Atlas of Cowries." The fourth section, by Walls and Warren E. Burgess, contains a most interesting and informative "Synopsis of Cowry Subspecies and Varieties" as well as a thorough "Synonymic Index." I found the "Synopsis" (which did not appear in the first edition) to be far superior to the "Alternative Cowry Classification" which was based largely on Schilder's works and which this reader found too cumbersome and pointless to have any practical value -- since I can see little or no point in dividing the Cypraea into any classification system more complex than that of genus and species.

Missing from the revised second edition is the "Identi-Chart" that was featured in the first edition. I, personally, found this feature to be of very little use and will not miss it too much. The heart of this book, though, was and is its photographs of the Cypraea that Walls considers valid species. As in the first edition, the quality of these photographs ranges from very good to barely acceptable. In several instances photographs of holotypes have been used to illustrate the species. These holotype specimens are often discolored by age and often are in very poor condition compared to shells available to collectors today. Since these particular specimens are not identified as holotypes, a reader can get a mistaken idea as to what the shell really looks like, particularly since, as mentioned above, the color printing and separation leave something to be desired. However, the photographs are large, even of the very small species, and the format of having a single species represented on a page is to be commended.

Several errors which appeared in the first edition have been corrected: The sub-adult albino specimen of Cypraea decipiens E. A. Smith, 1880 which was pictured on unnumbered page 261 as Cypraea joycae Clover, 1970 is no longer in the book, and Cypraea joycae is treated as a synonym of Cypraea porteri C. Cate, 1966. And the error which gave us a specimen of Cypraea macandrewi Sowerby, 1870 captioned as Cypraea thomasi Crosse, 1865 has now been rectified. The specimen in the first edition on page 240 called Cypraea musumea Kuroda (should be Kuroda and Habe, 1961) now appears on the same page of the second edition as Cypraea katsuae Kuroda, 1950, which is another species I will discuss at length in the future. (Walls feels that the former is a synonym of the latter, but I feel that the two can be readily separated.)

All in all, one must praise and welcome the arrival of this most interesting and useful work. Its price at $20.00 is $5.00 more than the original edition. I would certainly recommend purchasing a copy of this revised edition to anyone who is interested in this family of shells and who does not already own the first edition. It must be left to a matter of individual choice as to whether or not the extra material included in the revised edition is worth the expense to someone already owning the earlier edition. My personal preference would be to use the second edition and let the first rest, but, again, each collector must decide independently.

I know that C. M. Burgess is preparing a revised second edition of his monumental work, THE LIVING COWRIES, which was published in 1970. Those of us who waited for his first edition to appear will bear in mind that there is often a long period of time between the completion of a manuscript and its appearance in printed form. I am eagerly looking forward to the revised work by Burgess but do not think that anyone should in the meanwhile defer owning Walls' book. The two books do compliment one another well in many respects.

Robert H. Janowsky

SHELL SHOWS: Broward Shell Club, at the Pompano Beach Recreation Center, 1800 N.E. 6th St., Pompano Beach, Florida, February 1,2,3. Pacific Northwest Shell Club, in the McCurdy Room of the Museum of History and Industry, 2161 East Hamlin, Seattle, Wash., April 19-20.

NEW TAXA FROM CHINA

Morris K. Jacobson.

I recently had the opportunity to examine two periodicals, published in China, which deal with marine topics. They are called STUDIA MARINA SINICA and OCEANOLOGIA ET LIMNOLOGIA SINICA. The articles are, of course, printed in Chinese ideographs, but all are accompanied with abstracts in western languages, mainly English and French.

Of chief interest to our readers is the introduction of new taxonomical descriptions in malacology. These descriptions, in accordance with the Code of International Nomenclature, appear either in English or French, although Latin and Spanish are also acceptable. Almost all of these taxa have been properly introduced; the exceptions are six new venerids introduced by Zhuang Qi Qien who neglected to provide diagnostic distinctions to separate these new forms from their nearest congeners. This might make them invalid, but I'm not sure.

The following appear in STUDIA MARINA SINICA:

Teredo schizoderma introduced by Li Kie min (August, 1965)

Glossodoris xishahensis by Lin Guang-yu (August, 1965)

Octopus nanhaiensis, O. strilatus, and O. guandogensis by Dong Zheng-zhi (December, 1976)

Anapella retroconvex (a mesodesmatid) by Zhuang Qi Qian (August, 1976)

In addition, Zhuang introduced the following new venerids without supplying the diagnosis (June, 1964):

Gouldia micronodulosa
Gouldia subtrigona
Pariglypta compressa
Katelysia eugibba
Dosinia truncata

In June, 1964 Zhang fu sui introduced the following new pteropods:

Cymbulia tricavermosa
Pneumodermopsis macrocotyla
Abranchaea chinensis (new genus, new species)

Another important note to make is that the muricid name Chicoreus sinensis (Reeve) -- used previously by Gmelin and hence a homonym -- is replaced by Chicoreus orientalis Zhang, a new name.

In OCEANOLOGIA ET LIMNOLOGIA SINICA the following new taxa appear:

Cylindrobulla xishaensis (a small cephalaspidian opisthobranch with an extremely interesting shell) by Lin Guang-yu (Jan., 1978)

Gigantonotum album and Oscanius sishaensis (nudibranchs) by Lin Guang-yu and Tschang Si.

It is necessary to recall that the first name in Chinese, unlike ours, represents the family name. Hence the authors' names of these taxa will appear as Li, Lin, Dong, Zhuang, Zhang, etc. Recently the Chinese government issued a new system of name transcription, also indicating how they are to be pronounced. I didn't keep the list.

WARNING:
Plastic sponge may be hazardous to your specimens' health!

I assume many collectors have used small plastic hinged or press-fit containers to store smaller specimen shells. Over the years, I have acquired thousands of these, mostly with plastic sponge inserts which fit the interior. My usual procedure has been to place first a folded label, then the insert, and finally the specimen(s), which is held firmly in place between the plastic and the lid.

Some months ago, I discovered a most disturbing problem. After a time, the plastic sponge, *if under compression*, loses its elasticity and deteriorates, and often a thin film of granular material adheres loosely to the underside of the shell. This is quite easily rubbed or brushed off, and in many cases does no *visible* damage. *However, it minutely etches the surface*. In the case of a glossy small *Cypraea*, *Olivella*, *Marginella* or the like, the result is disastrous! Most of the gloss is gone, never to return.

I know little of the chemistry involved, but there is, presumably, some acidic component in the disintegrating plastic. Needless to say, most of my plastic sponge inserts have been discarded, and something less reactive, such as cotton wool, substituted. It occurred to me that others might have followed a similar procedure. Hence this warning.

Earl H Reed
Springfield Science Museum

CYPRAEA TERAMACHII Kuroda, 1938 FOUND IN PHILIPPINES

Robert H. Janowsky

It is always exciting when a specimen of a very rare species is found in a new locality. I am therefore very pleased to report that I can now confirm that this very rare *Cypraea* (please see my article in NYSC NOTES No. 246, November 1978) has been found in the Philippines. I have, in the last two years, had two reports that this species had been found off Punta Engano in Cebu, but neither of these reports were firsthand and were impossible to trace.

The mature specimen that I am reporting on now is in the collection of New York Shell Club member Mr. Esmond B. Martin. It was collected alive in deep water (most probably 60-80 fathoms) in a tangle net off Samal Island, Davao, Philippines. This shell is somewhat smaller than the specimen previously illustrated (see p. 7 of NOTES No. 246). Its length is 62.5mm as compared to the 68mm length of the specimen from Taiwan and its other dimensions are proportionately smaller, too. This Philippine specimen is very much brighter in color and has a lighter, thinner "feel" to it as well; it is far more attractive than any I have seen before, having an almost translucent appearance rather than the somewhat dull and subdued quality usually found in this species.

These NOTES are indexed No^{s}. 1-250. For back issues, see Bob Janowsky.

AT SKY LAKE, NORTH MIAMI

Anne and Albert Taxson

(Anne and Albert Taxson have been active members of the New York Shell Club for more than twenty years. Last year they retired to Florida. We are very glad to have the following observation, which was contained in a letter, of their new neighborhood. --Ed., D.R.)

Our daily routine is going for walks around the lake (and seeing what shells are around). We have help from the grackles. They fish among the algae and pull out a round coiled snail (Marisa cornuarietis), insert their beaks into the aperture, grab and pull. We find the empty shells all over the grass. Another shell you find on every rock under the water is Melanoides tuberculata (Müller). We've taken a few as specimens. As we walk along the side of the lake, occasionally there are empty shells of, of all things, Corbicula leana Prime, and a freshwater mussel which I think is Anodonta imbecilis Say.

There is a problem with these two bivalves. The lakes were formerly quarries of fossiliferous limestone. It seems that when the quarries reached the ground water the pits, which are over 100 feet in depth, began to fill in with fresh water. The lakes are connected by a system of canals that tap the salt water of the intracoastal waterway, thereby changing the lakes to brackish water.

In a paper, "Recent Corbicula in North America," at the A.M.U. Convention last summer, Dr. J. P. E. Morrison quoted a new study on the Corbicula which stated that the Chinese species of C. fluminalis has been found in the Upper Rio Grande, in addition to being well established in the Columbia and Colorado River systems. Corbicula leana is from the Bay area of California. All other records from the U.S. are C. leana. Therefore, the shell I found on the bank of Sky Lake must be C. leana.

The problem is this: The Corbicula and the Anodonta that I found were all dead shells. They must have been fished out by the birds. How did they get there? The records for the southernmost findings of A. imbecilis (and the furthest east in Florida) is the Ochlocknee River System which runs into the Apalachicola River in the Florida Panhandle. Further east in Georgia the southern record is the Altamaha River. As far as the Corbicula is concerned, it is everywhere. But the lakes and canals are a closed system; they do not connect to any river in Florida, so the question is: How did these shells get there?

If I was half a shell collector and felt a little better, I would go diving in the lake and look for live bivalves. To hell with the alligators.

A NOTE ON MELANOIDES TUBERCULATA (Müller, 1774)

(and remarks on other species of the same station)

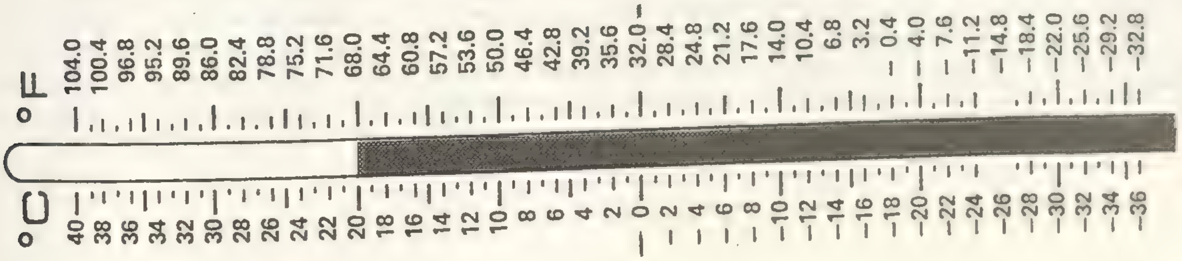
Dorothy Raeihle

The Taxsons' report called to mind one of the very few times we collected freshwater mollusks. It was in November of 1972, we were visiting in Inverness, Florida, and we were having a pleasant picnic by the Rainbow River. Of course we waded to look for shells. The river bottom was generally sandy with some fine gravel. We found a total of three species: Melanoides tuberculata (Muller, 1774), a Thiara Snail; Goniobasis floridensis Reeve, the Floridian River Horn Snail; Corbicula sp. (leana?), the pesty Asiatic Clam. It seemed strange that two out of the three kinds of shells we had picked up were introduced, Asian species. We wondered how they got there. Does anyone really know?

The Melanoides lived in their small aquarium for over a month, and produced quite a few young: I kept finding young Melanoides in the container, but it was not until we were back in New York and could make a really careful examination of the material that the eggs were located. Several of the adult shells seemed to have merely a daub of sand clinging to their shell. Close inspection revealed that these "daubs" were clusters made up of sand grains "glued" together. In underneath a cluster would be from three to five eggs. The clusters were roughly round in shape and measured from 1½mm to 2mm in diameter. I did not observe emergence from the egg case, but I feel safe in saying that the young snails had direct development within their egg capsule and emerged crawling. At any rate this method of reproduction would explain Karl Jacobson's observation of the repopulation in the swimming pond at Palm Bay (see: "Life Revives in Old Brevard" NOTES 247.3,4; 240.3,4), the newly hatched snails (or the egg cases) being too minute for even a duck to find.

As all the shells collected on that trip have long since been given to collectors who specialize in freshwater mollusks, I can only recollect the Corbicula being a pretty little shell with a bad reputation. Variations in the shell of specimens within a colony and from colony to colony (sometimes due to the age of the clam) have, since its introduction to this country perhaps fifty years ago, given rise to a number of specific names that are now gradually becoming part of the synonymy. The biological studies will probably be the deciding factor, as some groups have free-swimming larvae while others have non-swimming larvae.

It was about that same time that we were shown several specimens of Marisa cornuarietis (Linné, 1758), the attractive Wheeled Apple Snail. Someone had collected a handful "from a ditch back of the shopping center in Fort Myers" and asked if we knew what they were. We didn't. This is another import, being originally a South American species. AMNH GUIDE TO SHELLS (Emerson & Jacobson, 1976) on page 293 reports that it has been welcomed in Florida because it is a voracious feeder on the troublesome water hyacinth. In view of Al Taxson's observation of grackles feeding on Marisa, could it be that the limpkin and the everglade kite might accept it also as an item of diet?



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FOUNDED JAN. 1949

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The NEW YORK SHELL CLUB meets on the second Sunday of each month, September through June, in

ROOM 426, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, MARCH 9, 1980, at 2:00 pm

PROGRAM: JAMAICA BAY WILDLIFE SANCTUARY, ITS HISTORICAL AND ECOLOGICAL SIGNIFICANCE by Maxwell Cohen, Chairman of the Department of Biology, Beach Channel High School of Oceanography at Rockaway.

MINI-TALKS on NOMENCLATURE, by Bob Janowsky and Fred Cannon.

☆ DISCUSSION OF PLANS FOR OUR ANNUAL APRIL SOCIAL (See page 8.)

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HIGHLIGHTS OF THE JANUARY MEETING:

President Fred Cannon gave advance notice that it will be necessary to increase dues, since present income no longer covers the cost of producing and mailing the NOTES. Without adequate income, we would very soon be unable to consider expenditures to bring in invited speakers, and program quality would suffer. The executive committee will submit a proposal for a new dues structure at the February meeting.

The shells in the display case were Cones from Al Scarpetti's collection. All of them were attractive, and Al made the point that none of the species were rare, or even uncommon, and were, therefore, not expensive. None, he said, would cost more than $6.00. The purpose of the display was to encourage anyone who might feel that assembling a handsome collection of cones would be prohibitively expensive.

The first speaker, member John Bockelman, described his recent collecting activities on Majuro Island, in the Marshall Islands, and on Guam, in the Marianas. In addition to commenting on the scenes in his slides, he gave some details on the shell-cleaning equipment and methods he used, and on his provisions for smell control.

The first three brief talks in the basics of shell collecting were presented by Milton Werner, speaking on land collecting, Al Scarpetti on buying shells, and Richard Goldberg on trading. Richard distributed a two-page summation of the advice and suggestions he offered.

The invited speaker was Edward Petuch, of the University of Miami. He described a working collecting trip to Colombia, Venezuela and Brazil that yielded a number of new species and provided him with a theory as to the paleohistory of the Caribbean faunal province. At Cartegena, Colombia, he boarded a shrimp boat and lived on it for the several days of a working voyage, trying to snatch shells -- including some new species -- from the hauls before crewmen could throw them over the side. Ed described the condition of, and conditions on, the boat in vivid and disheartening detail. He also spent some time on Brazil's Abrolhos Islands, where the trees (palm) can easily be counted, and where the new species of Limpets, Murex, Volutes and Olives almost outnumbered them. He was glad to trade the stark islands for Rio de Janeiro, where he again took to the shrimp and scallop boats. Rio yielded two new cones, which he named *carioca* and *xanthocinctus*. Ed covered all of his activities with scenic photos and shell close-ups, and with a lively narration.

Milton Werner, Recording Sec'y.

A CORRECTION TO:

A NOTE ON MELANOIDES TUBERCULATA (Muller, 1774) etc.

Dorothy Raeihle

(See: NYSC NOTES No. 259, pp. 6-7.)

In last month's issue, brief observations were given on a few freshwater snails collected in the Rainbow River in Florida and kept alive for several weeks. Two species, *Melanoides tuberculata* and *Goniobasis floridensis*, were kept together, as a matter of convenience, while we were travelling. After returning to New York the species were separated and a search made for eggs, as young *Melanoides* had appeared in the aquarium. Eggs were found concealed under clusters of sand grains that were sticking to the shells of the *Melanoides*, and these eggs were considered to be the source of the baby *Melanoides* in the aquarium. The deduction was incorrect.

Dr. Joseph Rosewater kindly sent us a note, setting the matter straight, and enclosed a reprint of a paper by Dr. Morrison on the Melanians.* The truth is that *Melanoides tuberculata* is ovoviviparous, i.e. having a brood sac, located back of the neck, in which the eggs develop into shell-bearing, crawling embryos. This accounts for the young *Melanoides* which appeared in the aquarium. Dr. Rosewater suggested that "The eggs covered with sand grains that you found on its shells probably are those of the *Goniobasis*." Undoubtedly, as that was the only other species in contact with the *Melanoides* for weeks, and the egg masses are as described by Dr. Morrison.

As for the *Melanoides* repopulating the swimming pond at Palm Bay, Dr. Rosewater remarks: "The suggested parthenogenicity (no males) of Melanoides may account for its ease of populating new locations. Just one snail dumped into a lake or river with the proper conditions can start a new colony ..."

The third species mentioned in the article last month was *Marisa cornuarietis*, the Wheeled Apple Snail. Browsing NAUTILUS we learned that this *Marisa* was first found in 1957 in the Coral Gables Canal, at that time "the only known colony established in natural waters in the United States."** Its introduction? Via the aquarium trade.

* Morrison, J. P. E., 1954. The Relationships of Old and New World Melanians. Proc. U.S.N.M. Vol. 103, No. 3325, 357-394.

**Hunt, Burton P., 1958. Introduction of Marisa into Florida. NAUTILUS Vol. 72 (2) 53-55.

☆ BE SURE TO READ THE ANNOUNCEMENT ON PAGE 8 !

The following article appeared in NYSC NOTES No. 123, pp. 8-10, and is reprinted now by request:

SHELLING IN A DIFFERENT LANGUAGE

Trips planned for areas where the local language is other than English can immeasurably be expedited if the collector prepares himself with a short glossary of shelling terms. Not all of us are gifted linguists but a brief study of translations for "Good day," "Please" and "Thank you" is not only a courteous gesture for you, the foreigner, to make but often can establish a pleasant rapport with your hosts when arriving in a potentially excellent shelling community.

Our experience in consulting with representatives assigned to the U.S. from other countries has resulted in a universal guarantee that the language problem will be non-existent for "every one speaks English." Perhaps that may prove to be true in many large cosmopolitan cities but somehow mollusks never seem to live in the congested urban neighborhoods of those multi-lingual educated inhabitants. The kindly, helpful people of the fishing villages are considerably less sophisticated and are very similar to the simple folks living in the small towns of our own country where, except for Spanish in selected spots along our coast, I doubt if many fishermen could be found who understand another tongue. The same situation exists wherever we have visited in the pursuit of shells.

A glossary may be as long as one wishes and as elaborate as fancy dictates. The following is a personal list of what have proved, for us, to be the most useful words in shelling -- perhaps not elite, but they have worked! Nouns plus a smile, gymnastics and pantomime, combined with the local word for "Please," are certainly the most important things to memorize. Whether the noun is masculine or feminine, for this purpose, is an unnecessary nicety. If one is inventive, pantomime can be depended on to do a splendid job instead of worrying over verb tenses. Pronunciation can be tricky but try them all - a mispronounced word in the language of your new acquaintance is much more appreciated and effective than impromptu Pigeon-English, usually spoken in increasingly louder tones as frustration sets in.

If you are contemplating "foreign shelling," certainly a bi-lingual dictionary is of primary importance. Not only will it be well thumbed before your homeward journey but it is a wonderful gift to leave with someone who has helped you. In most countries we have found that dictionaries in the local language and English are both hard to find and expensive.

On many occasions our Expedition has come to a complete halt while awaiting either the Leader or the Led to find a precise word in our brought-along volume. In places like the U.S. Trust Territory and Ceylon (for which we were unable to find dictionaries in Palauan, Sinhalese or Tamil) we daily added to our list of words and spelled them phonetically. Such practice is lots of fun and can add to one's enjoyment of a trip, but it does infringe on the precious time for field work.

Equipped with a minimum glossary in English, French, Spanish and

Portuguese, a collector can do a vast amount of wandering in his search for shells. With travel time shrinking as bigger and better jets enter the service of the airlines, the possibilities of getting to mouth-watering reefs and lagoons throughout the tropical world can become realities in the average American vacation period. If this is the year for initial shelling in foreign waters for someone, I submit our glossary -- as the old lady said of her hat pin -- "You never know when you might need one!"

MARY C. KLINE
May 10, 1966

KLINES' GLOSSARY OF SHELLING TERMS

English	French	Spanish	Portuguese
GOOD DAY	BONJOUR	BUENOS DIAS	BOM DIA
PLEASE	S'IL VOUS PLAIT	POR FAVOR	POR FAVOR
THANK YOU	MERCI	GRACIAS	OBRIGADO, m. OBRIGADA, f.
SEA	MER	MAR	MAR
SHELL	COQUILLAGE or COQUILLE	CONCHA	CONCHA
SAND	SABLE	ARENA	AREIA
ROCK	ROCHE	ROCA	RECIFE
REEF	RECIF	ARRECIFE	RECIFE
MUD	BOUE	LODO	LAMA
HIGH TIDE	MAREE HAUTE	MAREA ALTA	MARE CHEIA
LOW TIDE	MAREE BASSE	MAREA BAJA	MARE VAZIO
ROPE	CORDE	SOGA	CORDE
SHARK	REQUIN	TIBURON	TUBARAO
SNAKE	SERPENT	CULEBRA	COBRA
TO GO	ALLER	IR	IR
STOP	ARRETER	PARAR	OBSTRUIR
SLOWLY	LENTEMENT	DESPACIO	LENTAMENTE
YES	OUI	SI	SIM
NO	NO	NO	NAO
TODAY	AUJOURD'HUI	HOY	HOJE
TOMORROW	DEMAIN	MANANA	AMANHE
YESTERDAY	HIER	AYER	ONTEM
MUCH	BEAUCOUP	MUCHO	MUITO
GOOD	BIEN	BUENO	BOM

(Continued next page)

Klines' Glossary of Shelling Terms (Continued)

English	French	Spanish	Portuguese
SHALLOW	PEU PROFOND	BAJO	RASO
DEEP	PROFOND	HONDO	PROFUNDO
TO DIVE	PLONGER	ZAMBULLIR	MERGULHAR
MASK	MASQUE	MASCARA	MASCARA
FINS	PALMES	ALETA	BARBATANA
SNORKLE	RESPIRATOR	RESPIRADOR	RESPIRADOR
DREDGE	DRAGUE	DRAGA	DRAGA
TO SWIM	NAGER	NADAR	NADAR
BOAT	BATEAU	BARCO or LANCHA	BARCO
WATER	EAU	AGUA	AGUA
ICE	GLACE	HIELO	GELO
TO WASH	LAVER	LAVAR	LAVAR
TOWEL	SERVIETTE	TOALLA	TOALHA
SOAP	SAVON	JABON	SABAO
COLD	FROID	FRIO	FRIO
HOT	CHAUD	CALIENTE	QUENTE
TOILET	CABINET	RETRETE	LATRINA
TOILET PAPER	PAPIER DE CABINET	PAPEL HIGIENICO	PAPEL HIGIENICO
BILL	L'ADDITION	CUENTA	CONTA
RECEIPT	QUITTANCE	RECIBO	RECIBO
BREAKFAST	PETIT DEJEUNER	DESAYUNO	PRIMERA REFEICAS DO DIA
LUNCH	DEJEUNER	ALMUERZO	ALMOCO
DINNER	DINER	COMIDA	JANTAR
KNIFE	COUTEAU	CUCHILLO	FACA
FORK	FOURCHE	TENEDOR	GARFO
SPOON	CUILLER	CUCHARA	COLHER
TABLE	TABLE	MESA	MESA
CHAIR	CHAISE	SILLA	CADEIRA
BED	LIT	CAMA	CAMA

CYPRAEA KATSUAE Kuroda, 1960

Robert H. Janowsky

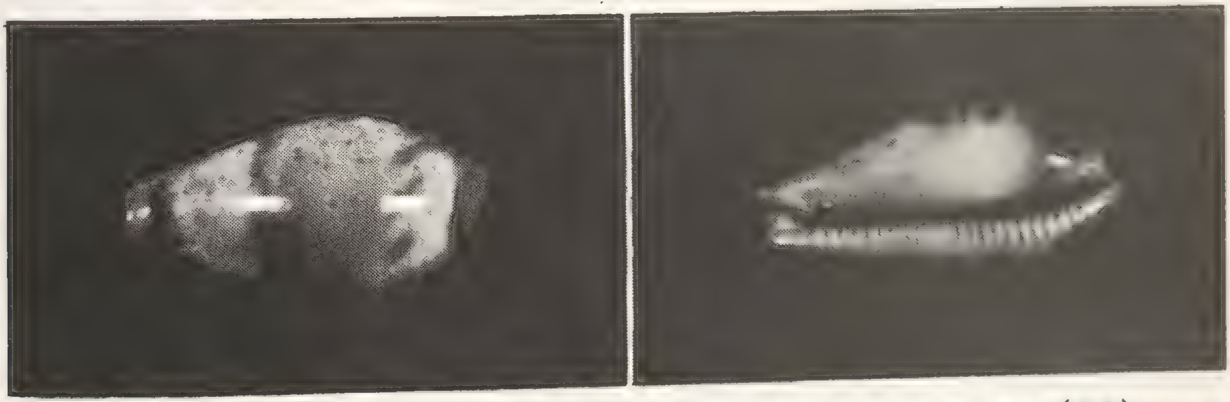
To be completely honest about it, Cypraea katsuae, although a very rare species, is not one that excited me very much. I always tended to get it mixed up with Cypraea musumea Kuroda and Habe, 1961, and with several other rather small species of Cypraea to which it bears a close resemblance. Perhaps some of my indifference could be blamed on the rather nondescript specimen which is the holotype for the species and which is illustrated in Burgess, "The Living Cowries," page 64, plate 4, figure G. Those interested in further study of this species are urged to consult page 60 of this work for an excellent and succinct analysis, in tabular form, enumerating the differences between Cypraea katsuae and three other species closely akin to it. At the time Burgess published his work (1970) only two specimens of C. katsuae were known: the type specimen, which was dredged at a depth of 80 fathoms near Okinawa, and a decorticate specimen dredged in 42 to 50 fathoms near Bohol, Philippines. In recent years several more specimens have been collected by coral boats in the waters off the Straits of Taiwan, at a depth of approximately 100 fathoms. I acquired a specimen which is now in my own collection, but even though this shell was considerably more attractive than the type specimen, I still remained rather unenthusiastic about the species.

The specimen illustrated here is the one that opened my eyes to the rather subtle beauty of this still exceedingly rare species. This most remarkable specimen is in the collection of NYSC member Mrs. Waverley Harmon; it was on display (with other very choice specimens from her excellent collection) at our November meeting. This specimen is the largest of this species that I have seen and is quite possibly the largest of its kind ever recorded. It measures 22.5mm in length (2mm longer than the holotype), 12.6mm at its greatest width, and 10.6mm in height. The specimen in my collection by comparison measures 20.6mm in length, 10.5mm in width, and 9.9mm in height. The shell in Mrs. Harmon's collection was collected from an unspecified locality off the southern portion of the Taiwan Straits at an unspecified depth in August, 1979. I can deduce that the shell came from considerable depth since it was collected by a coral boat (a trawler that collects coral for the souvenir and jewelry trade). The coral boats generally do not operate at depths of less than 40 fathoms, and exceed that depth the greater part of the time.

Cypraea katsuae is a very graceful species, pyriform in shape. The shell is narrow at the anterior canal and is swollen and quite roundly inflated below the posterior canal. The overall color is that of very light coffee lightly flecked with orange/brown on the dorsum. Two distinct but interrupted bands cross the dorsum just above and below its most inflated portion and a third less distinct band is present just above the anterior canal. The orange/brown flecks are larger and more greatly concentrated at the margins of the shell, decreasing in number and in intensity of color as the mid-dorsum is reached. The margins are shallow and weakly developed in the middle of the shell but are quite pronounced near the canals. Several large dark brown streaks are present on the labial margin and some strong brown spots are evident on the columellar margin. The base and the margins are somewhat darker in color than the dorsum. The canals are outlined above and below their terminals by solid, brown ring-like lines. The teeth of this shell are fine in texture and quite strongly developed. Their color is consistent with the color of the base but they are frosted on their surfaces with a darker reddish brown. The color on the teeth is one of the distinguishing features of the species and one of the quickest ways to separate it from C. musumea. There are 34 teeth on the columellar side, strongest nearest the anterior end. No fossula is present on the columella, and the teeth continue well onto the columella. The teeth nearest the anterior canal seem to be developed more strongly than those nearest the posterior canal. There are 28 labial teeth, uniformly and more strongly developed than the teeth on the columellar side. The aperture is straight from the anterior canal for most of its length, curving slightly towards the columella near the posterior end. The spire is deeply recessed with almost an umbilicate appearance and is well glazed over by the columellar callus.

It is surprising to find in the book "Cowries" by Taylor and Walls (1975), on page 240, a Cypraea called Cypraea musumea Kuroda (should be Kuroda and Habe) which has distinct dark staining on its teeth. Since this is a trait that is found in Cypraea katsuae but not in Cypraea musumea, one must wonder if the authors of this book have not incorrectly identified this rare shell. It is impossible to tell from the photograph if a fossula is present on the columella, since this, too, is a distinguishing feature: C. musumea has a distinct fossula, C. katsuae does not. In the same book, on page 260 (which is unnumbered) is illustrated a very badly decayed specimen of what appears to be Cypraea katsuae. To be sure, there are a great deal of similarities between these two species, but there are also very consistent differences which, even in the small number of specimens that have been studied, make me feel that the two species are distinct and readily separable from one another.

I am particularly pleased to have been able to examine this shell, since it has led to my appreciation of a species that I have otherwise ignored.



Cypraea katsuae Kuroda, 1960, Taiwan Straits (2X)
In the collection of Mrs. Waverley Harmon,
New York City
Photograph by Robert H. Janowsky

NEW YORK SHELL CLUB'S ANNUAL PARTY

APRIL 13, 1980, at the
BROADWAY DANCE STUDIO

On Sunday, April 13th we'll have our annual Shell-Social at Dorothy Jensen's BROADWAY DANCE STUDIO, which is on the second floor of the building, 31-08 Broadway, Astoria, Queens (BMT subway, ASTORIA line RR train, BROADWAY stop).

Our annual parties are social and fun, and the highlight of our season. There's an auction, a bargain table, a raffle (sometimes two), door prizes, a cocktail hour and a buffet supper. Further details will be given at the March meeting.

To make the party self-sufficient, each member makes a donation at the door towards the expenses of rentals and his/her own buffet supper (cocktails and punch are on the house).

To make the party profitable (i.e. that we may enrich rather than decimate our treasury) we beg your generous donations of shells and shell-related items (1) for the auction, and (2) for the bargain table. Look through your collection for shells you can spare, and for items such as shell books and papers, paintings, pottery, fabrics, jewelry, beach-combing accessories -- items that would appeal to your fellow shell collectors. What you bring in will probably be just what someone else has been looking for. All items great and small will be welcomed. Your guest(s) will be welcome, too.

You may bring shells to the March meeting, or early to the studio on the afternoon of the party. If you have too much to carry or mail, let us know and we'll try to have them picked up.

Mark the date on your calendar NOW: APRIL 13.

Final details will be in our April NOTES.

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These NOTES are distributed by mail to all members of the NEW YORK SHELL CLUB, INC. Dues: Full membership $5.50 per year, $1.50 additional for each of other members of the same family - - with one copy of NOTES per family. Corresponding membership $4.00 per year. A limited number of back issues of the NOTES are available at $.45 postpaid per single copy; also bulk rates. Items and articles for publications in the NOTES should be sent to the Editor. The corresponding Secretary should be notified promptly of any change of address.

NEW YORK SHELL CLUB NOTES No. 261 April 1980 Page 1

The NEW YORK SHELL CLUB meets on the second Sunday of each month, September through June, in THE AMERICAN MUSEUM OF NATURAL HISTORY, Room 426, with the following exception:

NEXT MEETING: SUNDAY, APRIL 13, 1980, at 1:00 pm *

THE PLACE: BROADWAY DANCE STUDIO (Phone: As.4-1503)
31-08 BROADWAY
ASTORIA, QUEENS, NEW YORK (Directions below)

PROGRAM: ANNUAL PARTY !

PRESENTATION: COLLECTING IN BERMUDA, by Russell Jensen of the Delaware Museum of Natural History

PLUS: AUCTION * BARGAIN TABLE * DOOR PRIZE(S)
RAFFLE * REFRESHMENTS * BUFFET DINNER

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NEW YORK SHELL CLUB'S ANNUAL SHELL-SOCIAL APRIL 13th

NOTICE that our party will be held NOT at the Museum, but at the Broadway Dance Studio, 31-08 Broadway, Astoria. We thank Dorothy Jensen for making her studio available to us.

It's going to be a great party:

Guest speaker Russell Jensen really knows his Bermuda and his photography.

The raffle will be very special, with the prize a lovely *Murex alabaster*! Another raffle prize: the newly published shell book by Gordon and Lorna Melvin.

Among the shells for auction will be a *Cypraea aurantium*! Perhaps you can't match that, but do comb your collection for extra specimens. We *need* your contributions. Should everyone bring at least one shell, or shell-related item such as literature, crafts, etc., either for auction or bargain table, the success of the auction should be assured. Let's try!

We're going all out with a hot dinner served buffet style, preceded by a social hour with cocktails and punch, then topped with homemade cakes -- the homemade cakes brought by our members are always a treat.

Because the hot buffet dinner requires more exact planning, we ask that you make dinner reservations by Wednesday, April 9th. Dottie and Bob Janowsky have volunteered to take your reservations for dinner @ $6.50 each for you and your guests (cocktails are "on the house"). Their telephone: (212) 485-3550.

DIRECTIONS:

The studio is on the 2nd floor of the building, corner of 31st St. and Broadway. From Manhattan, take the B.M.T. subway, ASTORIA line to the BROADWAY stop and you're right there. I.R.T. FLUSHING line to Queensboro Plaza, free transfer to B.M.T. ASTORIA line. From Jamaica, IND. subway to Roosevelt Ave., free transfer to I.R.T. FLUSHING line to Queensboro Plaza, transfer again to B.M.T. ASTORIA train. BY CAR: Queensboro Bridge to Northern Blvd. to 31st St., left on 31st St. (under the EL) to Broadway. Or Triboro Bridge to the first exit in Queens, turn right under the Elevated along 31st St. to Broadway. From Long Island: Grand Central Parkway to the last exit before the Triboro Bridge, go a short distance along Astoria Blvd. to 31st St., turn left under the EL to Broadway -- a distance of about six blocks.

*Doors will be open at one o'clock so that your donations brought by that time may be properly displayed, and that you may have time for a preview. The business meeting will be just about forgotten, activities will get underway soon after so don't be late -- we wouldn't want you to miss anything.

HIGHLIGHTS OF THE FEBRUARY MEETING

President Fred Cannon presented the executive committee's recommendation for a new dues structure that it feels will cover the present costs involved in producing and mailing NYSC NOTES. The proposed dues were: active member, $6.50; additional member, same family, $2.00; corresponding member, $5.00. Put to a vote, the recommendation was approved unanimously.

In the display were shells selected by the discerning eye of Nick Katsaras from his own collection. He chose them as being outstanding representatives of their species, in most instances for beauty, and in some for size - for example, a nine-inch Terebra maculata. A highlight of the exhibit was a lot of three Littorina littorea, notable for having been personally hand-collected by Mr. Katsaras.

The series of mini-talks on the basics of collecting was continued with three presentations on cataloging and labeling. Fred Cannon, Richard Goldberg and Dr. William Emerson (who spoke on the Museum's methods) described, with the aid of slides, cataloging and numbering systems widely different from each other. Fred uses a three-entry cross-reference system based on a card file and two loose-leaf binders, and coded numbers. Richard uses a two-entry system, and a two-letter code in place of numbers. The Museum uses the ledger-type catalog, and simply numbers consecutively. Dr. Emerson noted that some museums are experimenting with cataloging by computor. The high cost of this method is a major factor.

The chief speaker was Richard Goldberg, whose subject was The

Achatinella of Hawaii. He displayed a number of these small, colorful, and highly variable tree snails, many of which are sinistral. Using slide pictures of selected examples of color and pattern, mainly from the valleys of Oahu, he described the difficulty of speciating the family, and the bases on which many of the species have been named. The validity of most names is questionable, especially in view of Pilsbry's finding that there are no anatomical differences.

Milton Werner, Recording Sec'y.

REVIEW:

SEA SHELLS OF WESTERN EUROPE

by Philippe Bouchet, photography by F. Danrigal and C. Huyghens. Published by American Malacologists, Inc. 1979. Originally published as a French edition, COQUILLAGE des COTES ATLANTIQUES by Les Editions du Pacifique, 1979. Translation by B. E. Picton. 144 pages, 142 color photographs (often 3 or 4 to a page), a few maps. Size 5 1/4" x 7 3/8", nicely bound in gleaming paper. Price: $8.95.

This is an unusual sort of shell book mainly because of its superb color pictures -- splendidly reproduced -- of live mollusks, seemingly in their natural surroundings. A particularly interesting set of pictures show the siphons of bivalves, which, according to the authors, are so characteristically different that they are "just as reliable a character for identification (to the generic level) as their shell hinges." Many gastropods are also pictured, such as pheasant shells, turrids, Naticas, Odostomia (dining on the juices of its Mytilus host) and many others. Many gorgeous nudibranchs in full regalia also add to the beauty and interest of the book.

Besides these excellent pictures are 11 plates of identification figures and a host of information in many pages of clear, simple text. Here the reader finds interesting facts:

ITEM: Aeolid nudibranchs are able to eat sea anemones and still avoid being stung to death by their poisonous darts by secreting huge amounts of thick mucus, thus preventing the poisonous harpoons from penetrating the delicate nudibranchs.

ITEM: Natica, or the Moon Snail -- here called Necklace shells because of their collar-like egg cases -- are able to drill holes in the shells of their molluscan victims by using an enzyme to break up the organic matrix and then using their radulas to break up the freed calcium crystals. On the other hand, borers like the Oyster Drill and their muricid relatives use a secretion to dissolve the crystals themselves.

ITEM: Littorina littorea, the Common Winkle, ingests quantities of organic detritus and is deliberately grown in oyster beds to keep them clean.

ITEM: When the American Mya clam -- the steamer -- appeared in European waters, it was called "patagu" in La Rochelle, France; "old maid" in Southampton, England; "cocklebrillion" in northern Ireland; and "smirslin" in the Shetlands. These names have now all been replaced by "sandgaper" in English speaking areas, and "clanque" in French. I'll miss the "smirslins". There is also a short and informative chapter on oyster and mussel farming in Europe.

The faunistic portion of the book -- the major part -- is divided into the shells to be found in seaweed, on rocks, in estuaries, in sand, and in the open sea. Here useful hints for collecting are given.

Though this book is limited in the scope of the area covered, it is of value to every shell enthusiast who has left a little corner of curiosity open for the animals that form the objects of his or her devotion -- I think this takes in most devoted and experienced collectors. And for those who limit themselves to shells alone, the identification section is of value in arranging for exchanges with European collectors and for excursions to the area itself.

One last note: *Nassarius reticulatus*, the Dog whelk, because it concentrates on scavenging dead animals, is called in this book "The dustman of the sea." Dustman is British English for a garbage collector, and a dustbin there is a garbage can here.

The book may be obtained by writing to American Malacologists, P.O. Box 2255, Melbourne, Florida 32901. The price of the book is $8.95 but there is a discount for shell clubs who buy in bulk.

M. K. Jacobson

THE LIST OF LAST RESORT

is the title of a report in NATURAL WILDLIFE MAGAZINE for Dec.-Jan. 1980 (Vol. 18, No. 1, pp. 12-17). The article mentions that there are 486 foreign and 239 domestic species endangered, of which 166 are listed by their common names and include 25 domestic mollusks and one crustacean. The mollusks listed are land and freshwater: the Iowa Pleistocene Snail, the Virginia fringed mountain snail, 18 Pearly Mussels, 4 Pigtoe, and one Tan riffle shell clam. The one crustacean was interesting to us in that we reported its discovery about two years ago in NOTES 242.6. This ½" isopod of Socorro, found in a pipe in a thermal spring, "may be an important link between salt water animals and those that live in fresh water." New Mexico promptly requested that it be put on the endangered list that hopefully it might survive at least until studies are made.

Another interesting note bears on ecological balance: Abalone fishermen resent the sea otter for its occasional meal of abalone. But included in the list of favorite foods of the otter are the sea urchins that prey on young abalones.

dr

AN OFFER TO EXCHANGE

Jan. 10, 1980

Dear Sirs:

I can exchange interesting Mediterranean shells with worldwide Mitracea and others.

All are first quality with detailed data labels.

If you are interested please, kindly, send me your exchange list.

Sincerely,

Riccardo Giannuzzi

Via P31, No. 19
90146 Palermo
Italy

(See NOTES 247.6,7, Robert Janowsky re: Conus milneedwardsi. --Ed.)

CONUS MILNEEDWARDSI IS ALSO LIVING IN THE RED SEA

Henk K. Mienis
Zoological Museum, Mollusc Collection,
Hebrew University of Jerusalem, Israel

It is hardly known to shell collectors in Israel that the much sought after Conus milneedwardsi Jousseaume, 1894 is also living in the Red Sea. Yet it has been reported at least twice from the southern part of the Erythraean fauna province (Anonymous, 1971 and Mienis, 1972). Both records were based on two specimens present in the collection of our member Dov Peled, Haifa, who received them in 1970 from a fisherman in Ethiopia. The two specimens had been caught in fishing nets at a depth of about 20 fathoms in the neighborhood of Ras Andade, Ethiopia.

The largest and finest specimen (most probably the one figured in Hawaiian Shell News) was subsequently sold to a shell dealer in America. The second specimen was rather badly preserved and is, as far as I know, still in the Peled collection. Both specimens constitute the first records of this rare species from the Red Sea.

Since Jousseaume's type specimen of his Conus milneedwardsi came from Aden, its occurrence in the southern Red Sea could have been expected.

I should be very pleased to hear of any additional find of the Glory-of-India Conus milneedwardsi in the Red Sea.

I thank Mr. Dov Peled for supplying me with data.

REFERENCES

Anonymous, 1971. Hawaiian Shell News, 29 (5) (NS 137): 4.
Mienis, H. K., 1972. Nieuwe vondsten van Conus milneedwardsi Jousseaume. Corr. blad Ned. Malac. Ver., 149: 120-121.

. . . .

(Reprinted from LEVANTINA No. 22, September 1979. Published by the Israel Malacological Society and the Municipal Malacological Museum, Nahariya.)

MORE ON CYPRAEA BARCLAYI Reeve, 1857

Robert H. Janowsky

Since the publication of my article on this exceedingly rare species in NYSC NOTES No. 256.6,7 I have located two additional specimens of Cypraea barclayi in the United States. One specimen is in California in the collection of William Bledsoe, the other is here in New York in the collection of Mrs. Waverley Harmon. This brings to five the total number of specimens of C. barclayi that I know of in this country. The specimen illustrated in my above mentioned article is no longer in my collection but is now in the collection of NYSC member Mrs. Constance Duprey of Nashville, Tennessee.

If anyone can furnish additional information about this species, or knows of other specimens in this country that I have neglected, I would greatly appreciate hearing from you about them.

CYPRAEA LISETAE Kilburn, 1975

Robert H. Janowsky

One of the very rarest of the members of the Cypraeidae is, unquestionably, this small species which was first described by Kilburn on April 15th, 1975 in the Durban Museum Novitates Vol. X, part 16, p. 217. So rarely is this shell encountered that the specimen here illustrated is one of only two specimens that I have ever seen and which are, most probably at this moment, the only representatives of this species in this country. Kilburn in his original description states that Cypraea lisetae is closely allied to Cypraea midwayensis Azuma and Kurohara, 1967. C. lisetae does have many characteristics in common with C. midwayensis but, surprisingly, no mention is made of the greater similarity between C. lisetae and C. mauiensis Burgess, 1967. I have compared this specimen of Cypraea lisetae to Cypraea mauiensis and two more very closely related species, Cypraea margarita Dillwyn, 1817 and Cypraea cicercula Linné, 1758, and found that in its structure, shape of its aperture, and tooth development and formation, it differs from but certainly is closely akin to C. mauiensis. Unfortunately I was not at this time able to study a specimen of C. midwayensis, but study of the original description (VENUS, Vol. 26, no. 1, 1967) reveals that there are distinct similarities between C. lisetae and C. midwayensis (most notably their shape), but that there are fewer differences between C. lisetae and the other three species I earlier referred to (mauiensis, margarita, cicercula) which can be thought of as the Cypraea cicercula "complex." I do not infer by my use of the term "complex" that the term "complex" denotes a taxonomic entity. It is a term that I use as a convenient catchall to encompass a group of species and/or subspecific entities showing markedly and consistently similar characteristics, but which are usually treated as separate taxa.

Cypraea lisetae is a very small species -- the specimen that I have examined measures just a small bit more than 12mm. Both the holotype and the paratype are slightly larger, 13.3 and 12.6mm respectively. To date the species has not been found alive, but is collected ex pisce from waters off southern Moçambique in the area between Inhaca Island and Ponta Zavora. But, as Kilburn wisely points out in his description, it is really of little use establishing an exact locality for the species until such time as it is discovered in a living state. Dr. Ronald Plotkin of Johannesburg, South Africa, a noted Cypraea collector, has estimated that there are, most probably, no more than fifteen specimens now known of this rare little species.* Plotkin has two specimens in his collection, one of which is 14mm -- apparently the largest specimen found.

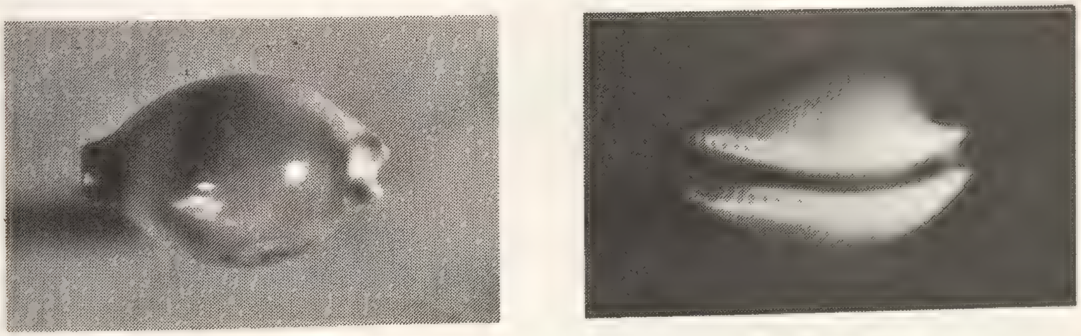
As can easily be seen in the accompanying photograph, the shell has a very rounded globular shape and well produced canals. Although ex pisce the specimen has its natural gloss and is in a remarkable state of preservation. The overall color of the dorsum is light caramel with a somewhat darker orange/brown blotch-like and rather indistinct band near the mid-dorsum. This band is not readily evident in the photographic plates of the paratype and holotype that are part of the original description. The shell's canals are faintly outlined with the same darker color and one dark spot is present

*Personal communication, February 1980.

at each side of the two canals. The margins are marked with dark, irregular spots. The margin on the columellar side is weakly defined while the labial margin is quite pronounced. The canals are quite thickly and strongly produced but are shorter in proportionate length than the canals of the species to which I compared *C. lisetae* earlier; there is in fact a greater similarity to the canals of *C. midwayensis* than to the canals of C. cicercula. The aperture of the shell is rather narrow and curved towards the posterior canal. The color of the base and the teeth is creamy/tan. The labial teeth are more strongly produced than those on the columellar side. On both sides of the aperture the teeth appear to be more strongly produced near the canals than near the center of the shell. Kilburn remarks that in his paratype specimen the columellar teeth are restricted to the columella edge but this is not evident in the specimen here figured or to such an extreme degree in Kilburn's holotype. This specimen has 21 teeth on its columellar side. The type specimens have 22. It also has the same number of labial teeth as the paratype (23), 3 fewer than the holotype. There is a wide concave fossula present and a pronounced fossular ridge which has three rather indistinct denticles. Four were reported by Kilburn in the holotype but the paratype was edentulate.

I feel quite privileged to have been able to examine a specimen of this small and very little known species. One suspects that it is a species that we will know quite little about for a long time to come, since little collecting of any kind is done from the waters that this species apparently inhabits. Those of you interested in further reading are directed to Kilburn's well-written original description. Color photographs of *C. lisetae* may be found in the second edition of COWRIES by Jerry G. Walls (1979), page 253.

The specimen illustrated and discussed here is in the collection of Mr. and Mrs. P. Maltese, Chamblee, Georgia.



Cypraea lisetae Kilburn, 1975. L. 12^+mm
ex pisce off southern Moçambique
Photograph by Robert H. Janowsky

WHAT'S IN A NAME ?

Because of their great beauty, the *Cypraea* were named after the goddess of love and beauty. Her home was on Cyprus, thus she had the surname "Cypria." She was "Venus" to Romans, "Aphrodite" to Greeks.

cf. Bullfinch, Poirier, Webster

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ROOM 426, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, MAY 11, 1980, at 2:00 pm

PROGRAM: FOSSILS OF THE CALOOSAHATCHEE FORMATION OF FLORIDA by George Raeihle

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SUMMER SCHEDULES, 1980

July 19-25: Annual Meeting of American Malacological Union, Executive Inn, Louisville, Kentucky 40213. Host Chairman Mr. Walter Sage, 1123 Hathaway, Louisville, Ky. 40215.

Aug. 1-3: Jacksonville Shell Club Shell Show, Flag Pavilion, Jacksonville Beach, Florida.

Aug. 6-9: Annual Convention of Conchologists of America, Casa Marina Inn, Key West, Florida.

Aug. 31 - Sept. 6: Seventh International Malacological Congress, Perpignon and Banyuls-sur-Mer. For information address Secrétariat du 7ème Congrès International de Malacologie, Laboratoire de B.I.N. et Malacologie, 55 Rue de Buffon, F-75005 Paris, France.

HIGHLIGHTS OF THE MARCH MEETING

The display case featured *Cypraea* from Bob Janowsky's collection. He had labelled them specially to illustrate the major points he covered in his mini-talk on the purpose of scientific names, and good and poor practices in entering names on labels. He illustrated his talk with slides showing good and poor examples of name entries.

Our invited speaker was Maxwell Cohen, of the Beach Channel High School of Oceanography, Rockaway, New York. He is well remembered for his presentation five years ago on beach erosion along the south shore of Long Island. Mr. Cohen's subject this time was the Jamaica Bay Wildlife Refuge, and he made it equally interesting. He traced the history of the Refuge to its present status as a National Park Service facility, and described the people and the methods that have made it a tremendously successful bird sanctuary. Although it is at the edge of New York City, in Queens, and close to Kennedy Airport, it is under the Atlantic flyway. Its 26 square miles, which include saltwater marshes and two man-made freshwater ponds, attract over 300 species of birds in the course of a year. Mr. Cohen's slides included one of a drawing, made many years ago, that illustrated early plans to turn the area into industrial and residential developments. As a frequent and enthusiastic visitor to the Refuge, he expressed satisfaction that the plans resulted in nothing more than a few comparatively modest residential communities in the surrounding area.

Milton Werner, Recording Sec'y

FOR MEMBERS OF THE N.Y.S.C. WHO WILL BE VISITING EUROPE IN 1980

We would like to point out to members of the N.Y.S.C. who will be visiting Europe this year that there is an outstanding collection of the Faune Marine, comprising all the known species of Europe, which can be seen in Brussels (Belgium) at the heart of a vast complex, called the Exotarium, which includes also numerous sea-water aquariums and live reptiles. This permanent exhibition, open every day, is at the Manhattan Center, Place Rogier, right near the Brussels North train station.

For those who may be going to Spain and who are interested in shell collecting, we recommend to them the Spanish coast from Valencia to Alicante. About halfway between Valencia and Alicante, at the landings of the port of Denia, one can find at rather shallow depth (1 or 2 meters) the only species of European Cone (Conus mediterraneus) which at this place can grow to 7 cm which is very rare elsewhere. In France (Mediterranean coast) about all one can find of these generally are small and dead beach specimens.

In the port of Torreviega (50 km or so south of Alicante) at the fishing boats docks, one can gather magnificent specimens of the large species, Tritonia nodifera (It should be noted that these shells must be cleaned and freed of animal.). The price of these valuable gastropods was around one dollar in 1962. Now it is significantly higher (maybe four dollars). For more complete information, please write to

Mr. Yves Rouget
La Faune Marine
94 rue de l'Epine
Grosage 7971 - Hainaut - Belgium

SUMMER SCHEDULES: AMU SPECIAL EVENTS JULY 19-25

President's reception. Moonlight cruise and buffet supper aboard sternwheeler Belle of Louisville. Book auction (books, reprints, art prints). Workshops for hobbyists: identification of marine, freshwater, terrestrial mollusks (3 different sessions); underwater photography; marine aquaria. Symposia: 1) Functional morphology of cephalopods; 2) Feeding mechanisms of mollusks. Banquet, speaker William Conklin, radiologist. Field trips: your choice of land, freshwater, or fossil. Y'all come!

Nederlandse Malacologische Vereniging

Leiden, February 1980

To the Editor of
New York Shell Club Notes

Dear Editor,

We wish to inform you that the journal of the Dutch Malacological Society BASTERIA has started in vol. 43 (1979) a series of publications on recent Conidae.

The authors are Dr. H. E. Coomans, R. G. Moolenbeek and E. Wils, malacologists at the Zoological Museum Amsterdam.

For this revision the authors have studied the original descriptions, the type material (when available), and they have consulted Museum and private collections in the Netherlands and abroad.

The series is entitled

"Alphabetical revision of the (sub)species in recent Conidae"

and will be continued for a number of years.

Black and white photographs of shells and distribution maps are supplied.

Enclosed please find:

No. 1. Conus abbas to C. adansonii. Reprint (Basteria 43: 9-26);
No. 2. C. adansoni to C. albuquerquei. (in Basteria 43: 81-105).

No. 3, Conus albus to C. antillarum, will be published in the first issue of Basteria vol. 44 (1980), with 6 distribution maps and 60 photographs of Conus shells.

We would appreciate it if you would advise the collectors and students of Conidae amongst your readers about this series.

BASTERIA can be ordered from the treasurer of the Dutch Malacological Society:

Dr. A. S. H. Breure
Rijksmuseum van Natuurlijke Historie
Postbox 9517
2300 RA Leiden, The Netherlands.

Subscription price for one volume, in two issues per year (with over one hundred pages, illustrated), is 42,50 Dutch Guilders.

The Editors of BASTERIA.

(Editor's note: Nos. 1 & 2 treat a total of 40 species and subspecies, with 11 distribution maps and 63 photographs of Conus shells. We will have the papers at the next meeting for you to see. As for the price, Chemical Bank advised that, as of April 10, 42,50 Dutch Guilders equals approximately U.S. $19.13. -dr)

REVIEW:

SHELLS ON STAMPS OF THE WORLD

A Bilingual Illustrated Catalog of Mollusca on Postage Stamps

by Kohman Y. Arakawa, D.Sc. Published by the Biological Society of Nagasaki Prefecture, 1979. Awarded highest honor in the field of philatelic literature at the 1979 Japan Philatelic Exhibition. 234 pages, 16 color plates containing 235 photos of stamps and cancellations, about 75 additional stamps reproduced in black and white, 11 text figures. Describes over 1,500 shell stamps from 150 countries and protectorates from 1840 to 1978. 6" x 8½", hard cover. Available from American Malacologists, Inc., P.O. Box 2255, Melbourne, Florida 32901. Price $14.50 plus $1.50 postage and handling.

On examining this volume one can easily understand why it won highest honors in its field. Dr. Arakawa has compiled a mass of information and arranged it in lists according to category with cross references. Do you want to know if a certain country has issued shell-stamps? How many times the pink conch, *Strombus gigas*, has been pictured on a postage stamp, and when, and by whom? What genera are most often pictured? Has our local hard clam, *Mercenaria mercenaria*, ever appeared on a stamp? Answers to these and so many more questions are good for hours of browsing for the average collector as well as the malacophilatelist (a new word to describe collectors of shell-stamps, for whom this book is a "must").

There are several listings, all informative. First of the two main ones is "Catalogue by Countries showing Shell Designs." The countries are listed in alphabetical order, numbered in sequence, and the monetary system noted. There follows in chronological order the shell-stamps issued by that country, each with a description giving year, month and day of issue, frequently noting whether engraving, painting or photo, a code reference if listed in a stamp catalogue (# = Scott's; § = Gibbons; @ = Minkus), the number in such catalogue, the denomination of the stamp, a description of the illustration, and reference to the systematic index. Following is an example; we use one of the listings under "Monaco:"

86. MONACO
100 CENTIMES (c) = 1 franc (fr)

1972. IX. 25 17th International Zoological Congress, Engr.
#843 30^{c} ....*Charonia tritonis* ... Congress Emblem,
Triton shell and creatures G21

G21 refers to Cymatidae in the "Systematic Index ..." where, with *Charonia tritonis*, are references to all the countries having used this species on their stamps, and the years of issue.

The reader must first become acquainted with the "Key to Symbols and Lettering used on the Catalogue by Countries" on page 64, and the "Notice to users" (of the "Systematic Index...") at the bottom of page 206. These instructions are sufficient but we remain curious about the introductory pages written in Japanese.

Inevitably in translations there are language problems resulting in typographical errors. A number are present in this book but in context are easily understood and smilingly forgiven.

Dorothy Raeihle

live-collected Cypraea the shells most sought after by collectors.

I must admit, too, that I was singularly unimpressed with Cypraea gondwanalandensis despite Burgess' well thought out original description in his 1970 monograph,"The Living Cowries." I was not even certain, until seeing this specimen, that despite his careful analysis of seven specimens of his new species that are consistently different from the closely related Cypraea fuscorubra Shaw, 1909, that Burgess' shells should not be treated as a synonymy of the earlier species. My opinion has been changed radically by my study of this specimen, which is the first live-collected specimen of Cypraea gondwanalandensis in the United States and is one of the four live-collected specimens that I know to exist in the world -- of which one is in South Africa and another in West Germany.

The reader is referred to Burgess' description for exact points of difference between Cypraea gondwanalandensis and Cypraea fuscorubra, but I will note briefly some of the differences for you:

The structure and formation of the teeth differ, as C. gondwanalandensis consistently has fewer labial teeth than columellar teeth while in C. fuscorubra the situation is reversed. In C. gondwanalandensis the columellar teeth do not end at the aperture but extend onto the base. C. gondwanalandensis is more thickly calloused at the lip which in C. fuscorubra is much thinner and more delicate. Burgess also points to differences in color and pattern and I suspect that when we are able to compare live-collected specimens of both species, side by side, even greater differences will be evident. I consider Burgess' analysis to be most remarkable in view of the fact that ten years ago only dead specimens were available for him to study. Burgess' specimens were beach collected and were found in an area encompassing the Cape of Good Hope on the west and East London on the east -- the exact southern tip of the continent.

The specimen of Cypraea gondwanalandensis here studied is 33.3mm in length, 21.1mm at maximum width, and 16.9mm at its highest point. It was taken by a scuba diver at a depth between 10 and 20 meters among weeds off Camps Bay -- slightly southeast of Capetown. The color of the dorsum is tan/grey with an irregular pattern of dark brown blotchy spots which are heavily concentrated from the mid-dorsum toward the columellar side of the shell; these spots are almost absent from the mid-dorsum to the labial side except for a few just above the labial margin. The margins and base are brown/orange and the labial margin is thick and heavily formed, giving the species its characteristic shape. The teeth are stained with red/brown and number 19 on the labial side and 23 on the columellar side. The labial teeth extend almost to the edge of the base at the center of the shell and to the very edge of the margins at the canals. On the columellar side the central teeth extend approximately 1/3 of the way onto the base and to the edges of the canals. The teeth are formed on the columella which is white and has a rather shallow fossula at its anterior end. The base is inflated on the columellar side but tapers sharply at the canals. The aperture is straight for most of its length and curves sharply at the posterior canal. The canals are quite thickly produced in this species, unlike those in C. fuscorubra. The spire is heavily glazed over but is still slightly protuberant from within a rather deep umbilicus. One more consistent difference is that C. gondwana-

MORE ON CYPRAEA BARCLAYI Reeve, 1857

(Please see NYSC NOTES 256.6,7; 261.5)

As a Cypraea enthusiast I find the notes by Bob Janowsky superb. Using Cypraea barclayi as a yardstick (as we have made a study on them) we found his description and views faultless. Please pass on the following information which may be of interest.

A) Species of fish from which C. barclayi is found is Chrystoblephus puniceus (Gilchrist and Thompson) commonly called "Slinger" fish and is a red fish variety with an average mass of 2-3kg. As far as I know they are only found on the East Coast of Africa but are most abundant off Mozambique and Zululand and are reef dwellers.

B) C. barclayi is still extremely rare. Since I have been collecting (7 years) only five have come to light (3 gem). They were all found ex pisce off Zululand in the vicinity of Richards Bay (20 to 30 fathoms).

C) I also feel that Reeve's specimen was mislocated.

D) We are still on the lookout for a specimen with the animal intact for study by Kilburn and Jenner (See "Notes on Molluscan Radula" in Reefcomber).

Yours sincerely,

L. Whatmore (Mr)

Editor, Reefcomber
The Natal Shell Society
Durban, South Africa

WHAT'S IN A NAME ?

Cypraea barclayi for Sir David William Barclay, a contemporary of Reeve and a discriminating collector who lived for several years in Mauritius and collected many rare marine shells there. (S. Peter Dance in "Shell Collecting, An Illustrated History," p.215.)

Cypraea gondwanalandensis is easier to read and pronounce when one is familiar with the theory that at one time all the continents were fused into one mass ("Pangaea") which at the end of the Permian Period started to divide into the northern "Laurasia" and the southern "Gondwana." (See: "Those Shifty Continents," by Robert S. Dietz, Sea Frontiers, I.O.F., July-Aug. 1971, 17(4) 204-212.) Webster gives us: "Gondwana land. Geol. A hypothetical land area which is believed at one time to have connected South Africa with India."

dr

CYPRAEA GONDWANALANDENSIS Burgess, 1970

Robert H. Janowsky

From time to time I receive a specimen to study that is so exciting that I find it difficult to confine my thoughts to paper. Such an instance occurred a few weeks ago when I received the specimen of Cypraea gondwanalandensis whose photograph accompanies this article. I have for many years felt a rather prejudicial dislike for the Cypraea species that are found in the waters in and around the Cape of South Africa. Most of these species are not ever found in living condition and so lack the attractive luster and patterns that make landensis has a humped appearance almost like a tubercle on the dorsum above the anterior canal; C. fuscorubra is smooth and rounded.

The animal has been preserved with this shell, and those portions of the shell's interior that are visible are flesh colored. I do not know by what method the animal was preserved and am hesitant to state that the colors are as they would be in life. I will record them here and hope that future field observations will supply an accurate picture of the living animal. Of the portions of the animal that I have been able to observe, the color is an overall red/brown flecked with bright red and yellow small granular spots in an irregular distribution.

My good friend and correspondent, Dr. Ronald Plotkin, was kind enough to furnish the following information about the 39.6mm live-collected specimen which is catalog #10-717 in his collection. It was found with its mantle fully extended at 60 - 80 feet depth in December, 1977 in False Bay, Cape, South Africa, on a red sponge.

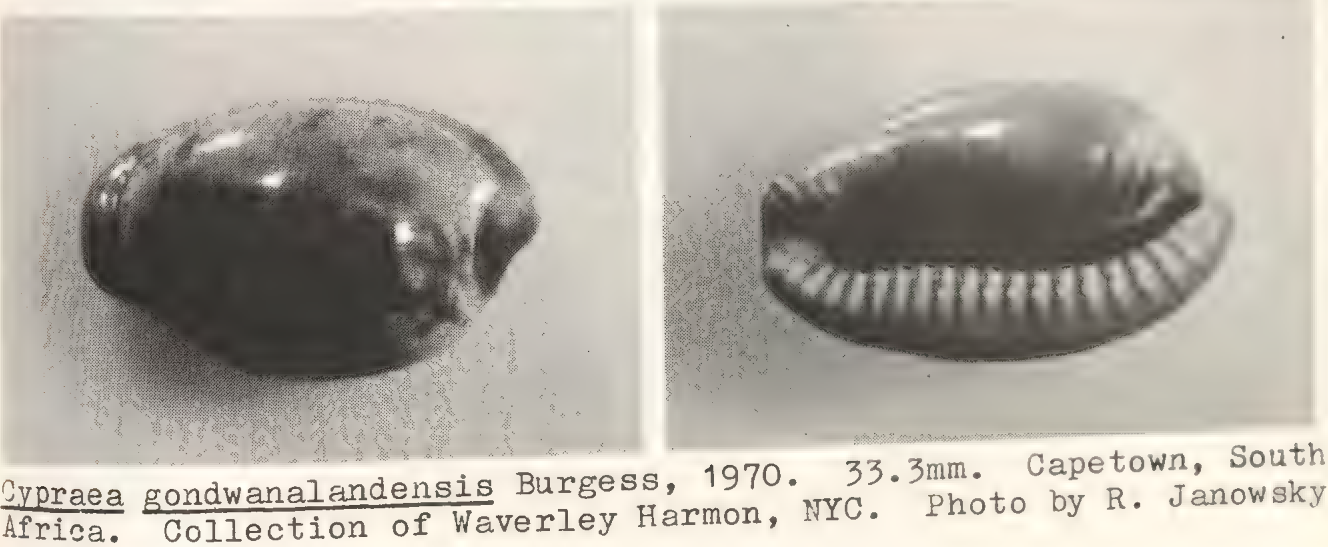
"Animal: 1) Crawling surface - creamy white on outer edges, yellow in center.

2) Mantle, white with small black spots, smooth and transparent. The shell can be seen when covered (by the mantle).

3) Eyes are black and are on orange antennae." (sic)

I assume the discrepancy between what I have seen and what Plotkin has observed is due to the changes brought about by the materials used in the preservation of the specimen I have observed. In all other respects the photograph of Plotkin's shell resembles the specimen studied here.

In light of the above evidence I find that I must thoroughly disagree with Walls' opinion in both his first and second editions of "Cowries," that Cypraea gondwanalandensis is a synonym of Cypraea fuscorubra. Almost without exception, every characteristic attributed to C. gondwanalandensis in Burgess' original description of dead-collected specimens has been borne out by the live-collected shell. Even a "lumper" such as myself can not deny that these differences are consistent and significant enough to justify complete specific separation. I am deeply indebted to Mrs. Waverley Harmon for the opportunity to make this study.



Cypraea gondwanalandensis Burgess, 1970. 33.3mm. Capetown, South Africa. Collection of Waverley Harmon, NYC. Photo by R. Janowsky

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NEW YORK SHELL CLUB NOTES No. 263 June-July-Aug. 1980 Page 1

The NEW YORK SHELL CLUB meets on the second Sunday of each month, September through June, in

ROOM 426, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, JUNE 8, 1980, at 2:00 pm

PROGRAM: WATER: Used by every living creature. Its resource, its forms, its cycle, its uses and its conservation.
By Mathilde P. Weingartner

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HIGHLIGHTS OF THE ANNUAL SOCIAL MEETING:

The Club's April meeting was, once again, a social meeting, held at the Broadway Dance Studio in Astoria, Queens (courtesy of Dorothy Jensen), on April 13 - the second day following the settling of the city's second transit strike.

President Fred Cannon, after a welcome to members and guests, thanked all those members who had donated material for the auction, mentioning especially Waverley Harmon, who contributed a large number of fine shells. Nick Katsaras, Sol Weiss and Seashells Unlimited also made notable contributions of shells, and artist Al Scarpetti added several shell pictures - fine examples of his gouache painting.

The speaker was Russell Jensen, of the Delaware Museum of Natural History. He spoke on shelling in Bermuda, showing a large selection from the slide collection he has built up through his years of wading, snorkeling and Scuba-diving there. He noted that the island, geologically, is a fossil sand dune, and traced the origin of its famous pink sand: parrotfish in search of food grind coral with their strong beaks, and excrete particles of coral which are then taken in by holothurians, reduced further, and finally excreted as pink sand.

Russell described the use of carrion-baited cage-traps, to depths of 1,200 feet, and dredges. Both are frequently lost in action, and traps are sometimes stolen. He also showed pictures of a ship's ventilator that was converted to a deflector for use with a boat's propellor. The prop wash, turned downward, digs out *Macrocallista nimbosa* with minimum effort. Among the shell close-ups Russ showed were one of a hybrid *Tellina*, and one of a European *Murex* that was introduced to Bermuda by an airline pilot. He hoped it would become a food item, but when it became better known as a predator, he managed to get himself transferred off the Bermuda run.

Auctioneer Bill Old had to work fast to bring all of the available shells, art and books under the gavel. Among the outstanding items were 51 small Mitra that brought $25; a small Golden Cowry, $25; Voluta fulgetrum, $25; V. abyssicola, $15; Conus cedonulli, $14; and the most lusted-after shell of the day, a lemon-yellow Chlamys nobilis that went for $27.

Lee and Frank Nelson again presided over the busy bargain table.

The two raffle prizes were a magnificent specimen of Murex alabaster and a copy, when published, of Melvin's "1,000 Shells." The door prize was a copy of "The World of Shells," by Scase and Storey.

Milton Werner, Recording Sec'y

REVIEW:

SIMON & SCHUSTER'S GUIDE TO SHELLS

by Bruno Sabelli. Arnoldo Mondadori Editore, Milan, Italy, 1979; translation by Thomas Snow and Neil Stratton edited by Harold S. Feinberg, Simon & Schuster, New York 1980. Size 5" x 7 3/4", 512pp., 1230 color illustrations. Price $22.50 hard cover, $9.95 paperbound.

The format of this book differs from that of an identification manual. After the 55 page introduction to malacology and conchology there follow five chapters each of which deals with genera that live in a particular type of habitat: (1) Soft surfaces (mud, sand, vegetation), (2) Firm surfaces (rocks, gravel, shell beds), (3) Coral dwellers, (4) other marine, (5) Land and freshwater. Thus it tells the field collector what might be found in various ecological areas.

There are a total of 357 numbered entries, each treating a species (or a genus, or sometimes a family), consisting of a half-page of information: marginal diagrams indicate size, distribution and habitat; text describes the shell, gives biological information on the animal when known, and habitat and distribution, and on the facing page there is a color photograph of the shell under discussion. The entries are listed in alphabetical order rather than by family, thus Malea ringens, the Tun Shell, shares a page with the Hammer Oyster, Malleus albus. However, there is a classification table. The index lists both Latin and common names, especially helpful when there have been recent changes in nomenclature, as in the Apple Murex (No. 152) which here is Chicoreus pomum while recent American publications place it in the subgenus Phyllonotus.

The color photographs are of good quality and include about thirty of living animals. The more than 357 shells discussed are the more popular and better known of the worldwide shells, well represented in collections. Thus the book should appeal to the armchair collector as well as the field collector.

Unfortunately there are always slips between editing and printing; we spotted three sets of photographs which had been transposed: in entry no. 164, Emarginula and Hemitoma; nos. 193 and 194, the two species of Nerita; on pages 469 and 487, Spondylus americanus and Murex beaui. Following the description of the family Melongenidae (entry no. 70) the distribution information was twisted. It should read that the pictured Melongena and Busycon are in the Caribbean province while Syrinx lives in the Australian. We noted a few typographical errors, the most serious one being Tatcheria for Thatcheria, thus putting no. 117 slightly out of order alphabetically.

There may be additional variances -- we did not comb each page nor are we familiar with the background of all the families -- but those slips noted here do not detract from the usefulness to the collector whose interest is of a general nature.

Dorothy Raeihle

ANNOUNCEMENT OF PUBLICATIONS:

PATHWAYS IN MALACOLOGY

The invited lectures of the sixth international congress of Unitas Malacologica Europaea held in Amsterdam, The Netherlands, August 15-20, 1977. Eleven papers review present-day knowledge of some of the most important branches in malacology: J. Lever, On torsion in gastropods; N. H. Verdonk, Symmetry and asymmetry in the embryonic development; A.S.M. Saleuddin, Shell formation; C. M. Yonge, Cementation in the bivalvia; J. Joosse, Hormones in molluscs; M. J. Wells, Brain en behaviour in Octopus vulgaris; A. deZwaan, Energy metabolism in molluscs; Marie-Louise Fumestin, Planktonic molluscs as indicators; J. Knudsen, Deep-sea bivalves; Alan Solem, A theory of land snail biogeographic patterns through time; Emile A. Malek, Control of snail hosts of schistosomiasis. 300 p., clothbound.

Pathways in Malacology Dfl. 149,--($75) (ISBN 9031303194) Publisher: Bohn, Scheltema & Holkema, P.O. Box 24, 7400 GS Deventer, The Netherlands.

The price of $75 US is subject to exchange rates.

(Publisher's announcement)

INDO-PACIFIC MOLLUSCA

Numbers 1 through 5 of Volume 1 are out of print. The remaining numbers, No. 6 of Vol. 1, April 1965, through No. 17 of Vol. 3, Sept. 1976, are still available, either singly, or as a set with binders and guide tabs. Prices of the numbers vary according to the number of pages. For detailed information write to the Delaware Museum of Natural History, P.O. Box 3937, Greenville, Delaware 19807.

MONOGRAPHS OF MARINE MOLLUSCA

Number 1, December 1978, "The Family Cerithiidae in the Indo-Pacific" by R. S. Houbrick. 128 pp., $17.50. Available from the publisher, American Malacologists, Inc., P.O. Box 2255, Melbourne, Florida 32901.

SHELLS,

An Illustrated Guide to a Timeless and Fascinating World, by Mary Saul, 1974. Printed in England, and in U.S. by Doubleday & Co., Garden City, N.Y. 192 pp., 7 3/4" x 10 1/2"; 200 pictures, 50 of which are in color. An interesting and informative book about man's association with and observation of mollusks. A book of charm, with photos in many categories and stories of truth and of myth. Still available at book stores, moderately priced.

MORE ON CHICOREUS ORIENTALIS, new name.

M. K. Jacobson

Dr. Emily Vokes of Tulane University, one of the world's leading authorities on Muricidae, was kind enough to point out to me that the name Murex sinensis, used by Reeve in 1845 (but used earlier by Gmelin in 1791) (see NOTES 259:4) and replaced by Chicoreus orientalis by Zhang in 1965, had already been replaced by Kuroda in 1942 by the name Chicoreus asianus. Hence Kuroda's name should take precedence over Zhang's. But the case is somewhat more complicated than that.

In 1822 Lamarck named a new species Murex elongatus, but since this name had already been used earlier, in 1786, by Lightfoot, it was changed to Murex sinensis by Reeve in 1841, who overlooked the fact that this name had been used by Gmelin earlier, in 1791. ('S a wonder these old guys weren't a bit more careful!) Thus the shell called by Lamarck "Murex elongatus" remained without a valid name.

In 1942 Kuroda came upon this situation and proposed a good, so far unused name, and called the shell Chicoreus asianus. But he also believed that Lamarck had mistakenly included two different species in his elongatus. This was first apparently suspected by Sowerby in 1841, who called one of these two supposed species a variety of what Reeve called M. sinensis. Thus one of the two species included by Lamarck in his elongatus finally had a valid name.

But what about the other so far unnamed species? This is where Zhang comes in. He proposed the name Chicoreus orientalis for this form. Thus Lamarck's Murex elongatus became both Chicoreus asianus and C. orientalis.

Now the question is: are there really two distinct species involved? Dr. R. T. Abbott, who kindly discussed this with me, doesn't think so. As for me -- a thorough non-muricologist -- since I don't read Chinese, I was unable to judge the basis on which Zhang (and Sowerby and Kuroda) separated the two forms. The figures which accompanied Zhang's article looked practically the same to me. What is the opinion of others?

This verbose report appears as follows -- slightly abridged -- in formal scientific writing:

Chicoreus asianus Kuroda, 1942, pl.1, fig.5
  Murex elongatus Lamarck, 1822 (non Lightfoot, 1786)
  Chicoreus asianus (pars) Kuroda, 1942

Chicoreus orientalis nom. nov. pl.2, fig.2 (Zhang, 1965)
  (Studia Marina Sinica.)
  Murex elongatus var. Sowerby, 1841
  Murex sinensis Reeve, 1845 (non Gmelin, 1791)
  Murex (Chicoreus) sinensis Kobelt, 1877
  Chicoreus asianus (pars) Kuroda, 1942

In a nutshell -- for real! -- everything is expressed, or better, compressed, here.

THE 1978 AMELA EXPEDITION TO THE SOLOMON ISLANDS
AN INFORMAL REPORT
By Philip W. Faulconer

"Conus gloriamaris is really not rare; I trap them as I would lobsters, but recently fishermen have been stealing my traps just to get the hundreds of feet of nylon line." Brian Bailey, professional diver and salvor of sunken ships, was showing us a glistening five-inch cone he had just taken from a trap near Yandina Plantation in the Russell Island Group, toward the end of our three weeks of diving and collecting in the Solomons, in July of this year (1978).

Over a year ago, Billee Dilworth and Twila Bratcher had started organizing the American Melanesian Expedition, in which twelve members of the San Diego Shell Club would travel on the 100 ton, 79 foot motor vessel CORALITA, visiting jungle-covered volcanic "high islands" and palm-crowned coral "low islands". The CORALITA's captain, Wally Muller of Yeppoon, Queensland, has conducted such voyages for the last twenty years, ranging from the Great Barrier Reef up to New Guinea and down to New Caledonia. All of our group had previously sought shells in remote parts of the world, and easily fell into the routine of life on board, exploring and collecting, then cleaning and identifying our acquisitions.

We flew from Los Angeles to Fiji, thence over the New Hebrides to Honiara (Guadalcanal), capital of the newly independent Solomons, where the CORALITA awaited us in front of the Mendana Hotel. Our bulky sacks of heavy equipment for diving and collecting, far overweight by former airline standards, were accepted under the new rules by which baggage is measured rather than weighed. In Nadi, Fiji, we were greatly assisted by the passenger agent who remembered Billee and Twila from the previous Fiji trip, and quickly transferred our baggage from Pan American to the smaller Air Pacific plane for the final thousand mile leg of our outward journey.

For the next three weeks we lived on board, traveling mostly at night and using the daylight hours to snorkel and dive, often diving again at night in the warm, clear tropical water. We slept in comfortable staterooms, enjoyed hot fresh-water showers, and feasted each day on the inspired creations of Denise Muller, who continually produced wonders from her tiny galley.

The captain also won our admiration by skillful navigation from one coral-studded island group to the next, always raising or dropping the anchor by daylight, then conning his boat visually through the tricky reefs. Some nights we travelled as many as fifteen hours, a distance over a hundred miles, as between southern Santa Isabel Island and Roncador Reef, arriving with pinpoint precision just as the first light illuminated the shipwreck which sits high on the otherwise invisible coral reef.

The Solomon Islands consist of ten large islands and hundreds of smaller ones, scattered along a double line northwest to southeast, over some 250,000 square miles of the southeastern Pacific Ocean. The population of about 200,000 is largely concentrated on the big island of Malaita (50,000), and Guadalcanal, where over ten thousand islanders have flocked to the new capital, Honiara. Most of the other people are scattered in tiny family groups or little villages, often far from any roads or docks, thus virtually unaware of the outer world.

Predominantly Melanesian and Polynesian, the people are further classifiable by lifestyle, often being referred to as either "bush people", living in the jungle highlands by hunting and slash-and-burn agriculture, or as "coastal people", living from fishing and cocoanut culture along the coastal fringes of the volcanic "high islands" and on the coral "low islands".

One of the objectives of the AMELA Expedition was to meet local people, to learn a little about their way of life, and to buy shells. We did visit the Polynesian village of Leuaniua on remote Ontong Java atoll, out in the open Pacific, and the Melanesian Kia Village, on a jungle slope where river-like Austria Sound cuts through northwest Santa Isabel Island. It was a privilege to observe even so briefly a way of life based on fishing and subsistence agriculture, little touched by outside influences. The former warlike reputation of the Melanesian people may have been partly based on their understandable retaliation for the raiding and pillaging of their villages by nineteenth century slave traders.

In that part of the world, June and July are winter months, part of the "dry season", but we were to learn that this only meant that we would have somewhat less rain than during a comparable period in the "wet season". Where an average of eighty inches of rain each year keeps the rivers full and the jungle green, we should not have been surprised by frequent grey skies and occasional stormy periods.

The ocean water was a pleasant eighty degrees or more, and we needed no wetsuits. We did, however, wear slacks and long-sleeved shirts when diving to guard against coral scratches and jellyfish stings, and this cover also kept us warm when the water temperature declined at depths to a hundred feet and during late night dives.

Visibility in the open ocean was generally around a hundred feet, except in the vicinity of rivers, where silt and the mixture of salt and fresh water clouded our vision, and in the turbulent passages between islands, as near Kia Village and among the Florida Islands. There visibility was reduced to arm's length, and the swirling currents made drift-dives the order of the day. Brian Bailey had told us that we would find, in these passes, a shell under every rock or coral bump. He forgot to tell us how many yards of bare sand might lie between rocks.

Shell collecting began at once on our arrival in Honiara. In fact, the Bradners, having flown ahead of the main party, could already show us interesting specimens found directly in front of the hotel. Then, while the CORALITA took on fuel in Honiara Harbor our first night on board, several of our group took the opportunity to make a night dive under the adjacent pier. By the light of the waterproof electric lamps they turned up a magnificent Conus aulicus, a large and very active Harpa, and various nice Cypraea.

In contrast to the earlier Fiji expedition, where many fine shells were collected while simply walking on reefs or by shallow snorkeling, in the Solomons most of our collecting entailed long hours of snorkeling, or SCUBA diving. In general the reefs and shores we visited seemed sparsely inhabited by marine life, some even appeared quite barren. Even night diving, which usually finds the denizens of the deep "out for an evening stroll", was not always fruitful on this trip, although it was clear that the more prolific and varied coral areas also harbor the greatest variety of fauna.

Of course there were some exceptionally good collecting days. For example, read Twila Bratcher's description of the moonlight dive at Lunga Point, in the September 1978 FESTIVUS. Another notable location was little Nudha Island off the southeast coast of Guadalcanal. Apparently there had been no visitors for years, hence the shells lay in windrows along the high tide lines, and shells were numerous in the lagoons and in deeper water. Roncador Reef was another rich source of many and varied specimens, and we regretted the need to move on after less than twenty-four hours.

On some lucky occasions shells seemed practically to jump into my collecting bag as at Ngalignagho Island near southeast Santa Isabel Island where we made one of our first stops after leaving Honiara. On my first dive at this station, as I drifted down to the sloping bottom at about thirty feet of depth, there lay on the white coral sand in front of me the most beautiful shell I was to find in the entire three weeks ... a superb volute, a _V. rutila_ (110 mm). It had recently died and the fish had completely cleaned it out, leaving the rich red and orange gleaming attractively. This was one of the few volutes found by anyone on this expedition. Another fortuitous find occurred on a night dive elsewhere. As we swam down to the planned starting depth around seventy feet, the first thing my light revealed was a perfect little _Lambis scorpius_ (130 mm). But there were other occasions when no amount of searching revealed any collectable specimens.

In all, at twenty-four collecting stations, Heidrun and I found more than 175 species of shells distributed among twenty-six families, plus another twenty specimens we have not been able to identify. I would guess that a combined checklist from all twelve participants will exceed three hundred species. While collecting shells, we also watched for nudibranchs and Dave Mulliner collected and photographed about thirty species, including four not yet named. Descriptions of these animals are being worked on now.

Reprinted from The FESTIVUS X, 11, 100-102, November 1978,
the publication of the San Diego (California) Shell Club

POST OFFICE SNAILS

Mr. Colin McLeod of Dundee tells me that several newspapers have carried reports of giant West African land snails being discovered living in Aberdeen. Anyone suffering losses or delay in post recently may be interested in the following extract from 'The Sunday Post', 9th. July 1978 -

Snail Mail: A letter reached us last week in a sorry state. Frayed and torn in one corner, it looked as if it had been chewed. The explanation lay in a regrets note from the postmaster where it had been posted. It said simply - "Eaten by snails in the post-box." So that's what happens to second-class mail!

CONCHOLOGISTS' NEWSLETTER No. 67, p. 119
London, England, December 1978

CYPRAEA KUROHARAI Kuroda & Habe, 1961

Robert H. Janowsky

This rare species is yet another of those rather elusive shells that seem to be found only in the waters off southern Japan and in the waters surrounding Taiwan. Seldom seen in collections and very rarely available for study, there is truly very little at all that we know about this rather attractive species. Originally described by Kuroda and Habe in 1961 in "Coloured Illustrations of the Shells of Japan" (2)43, Pl. 19, Fig. 17 from the waters off Satsuma (now Kagoshima) off the southern portion of Kyushu, Japan, it had been recorded solely from this area until only a few years ago, when a few specimens were trawled by coral fishing boats working at a depth of 80 to 100 meters off the southwestern portion of Taiwan. This is approximately the same depth at which the Japanese specimens are found. In 1970 Burgess reported in his "The Living Cowries" that fewer than six specimens have been collected. It is quite difficult to today state how many specimens have been found, but I would venture an educated guess that fewer than twenty specimens can be found in collections today.

Cypraea kuroharai bears a distinct relationship to, but is readily separable from, two species that are much better known, Cypraea sulcidentata Gray, 1824, and Cypraea schilderorum Iredale, 1939 but is, in my opinion, consistently different enough from both to be considered a specific entity. Burgess, of course, recognizes Cypraea kuroharai as a species and states that it "is also similar to Cypraea schilderorum Iredale, 1939 but more closely resembles C. sulcidentata in most respects."* Walls, on the other hand, in his "Cowries - 2nd edition revised" treats Cypraea kuroharai as a synonym of Cypraea schilderorum. Burgess states the differences between the three species quite clearly: "the columellar teeth (of C. kuroharai) end sharply at the aperture and are not at all produced across the base as is characteristically found in Cypraea sulcidentata. The color of C. kuroharai is entirely shades of brown and tan, while in C. schilderorum the aperture and most of the adjacent base are pure white."

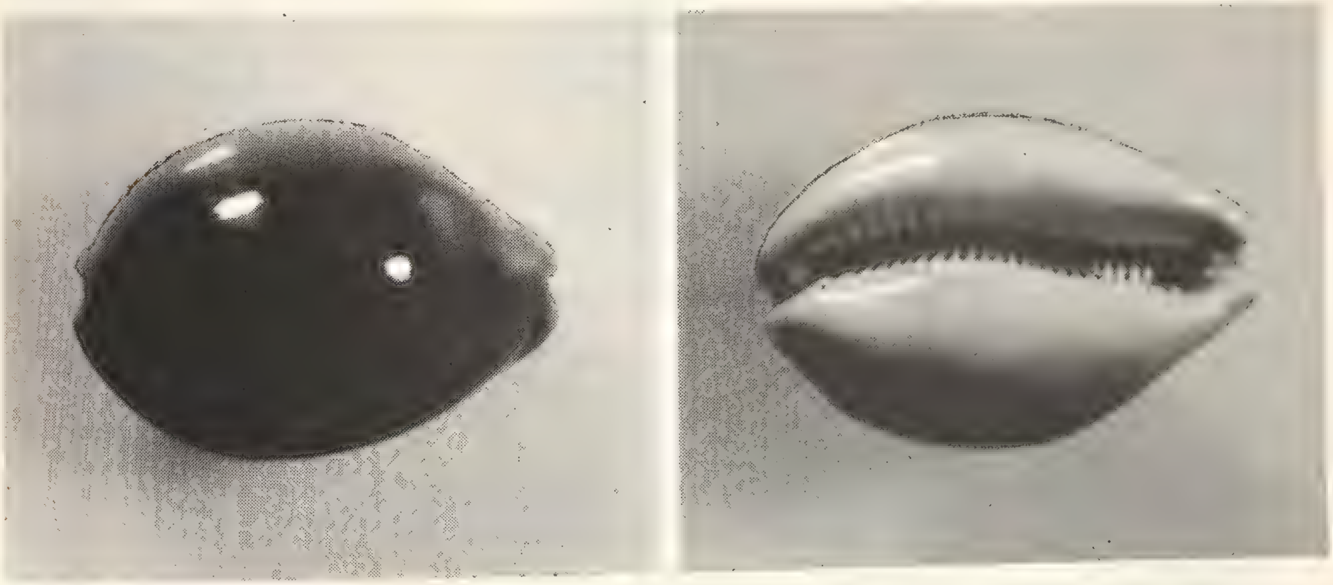
The specimen here illustrated is among the finest examples of the few specimens that I have ever seen. It is in the collection of Mrs. Waverley Harmon of New York City, to whom I am indebted for allowing my close study of this specimen, thereby enabling me to write this article. This specimen measures 35.3 mm in length, 24.4 mm at its maximum width and 18.1 mm from its base to the highest point on its dorsum. It was collected in 1979 by a commercial fishing trawler working at an approximate depth of 150 meters (nearly twice the depth previously recorded for this species) from waters off of Tosa Bay, Shikoku Island, Japan, which is probably at this time the northernmost point from which specimens of C. kuroharai have been found. In size this specimen falls about midway between those reported by Burgess (42.7 tp 22.2 mm) but I have seen a specimen that measured 45.5 mm.

The color of the dorsum of this specimen (and all others that I have seen) is a rich honey brown on which two more or less distinct, lighter tan bands are present. The marginal bands are of a shade somewhere between mauve and light brown and are flecked with a lighter color. The margins ride high on the dorsum. The color of the base is creamy tan and there is a slightly brighter yellowish color over the labial edge and at the canals and at the columella where the base begins. This coloring is quite strong at the terminal ridge. The interior and the columella are light cream color. The labial teeth are well produced and are 22 in number on this specimen and extend onto the base 1/3 or 1/2 way to the margin, those nearest the anterior canal showing the greatest extension. The 25 columellar teeth are strongly produced on the columella but are evident on the base only as slight pits or depressions at the very edge of the base. A well developed but not deep fossula is present on the columella which is crossed by the columellar teeth. A strong. well developed terminal ridge separates the fossula from the anterior canal. The aperture is fairly straight, flaring to its widest dimension at the fossula and slightly curved towards the columellar side at the posterior canal. The canals are quite thick and do not extend far from the body of the shell, adding to the rounded appearance. The spire is well covered over and is very faintly and shallowly umbilicate.

---

* Burgess, "The Living Cowries," p. 193.

To date there has been no study made of the animal but one can safely predict that there will be gross anatomical differences between the animal of Cypraea kuroharai and the animals of its closely kindred species to correspond with the differences in the morphology of their shells.



Cypraea kuroharai Kuroda & Habe, 1961,
off Tosa Bay, Shikoku Island, Japan.
L = 35.3 mm, W = 24.4 mm, H = 18.1 mm
Collection of Mrs. Waverley Harmon, New York City
Photograph by Robert H. Janowsky.

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The NEW YORK SHELL CLUB meets on the second Sunday of each month, September through June, in

ROOM 426, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, SEPTEMBER 14, 1980, at 2:00 pm

PROGRAM: TO BE ANNOUNCED

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MORRIS KARL JACOBSON

We are extremely saddened as we report the death of Karl Jacobson on July 21st, in Melbourne, Florida. He was in the hospital with care and attention for what had been seemingly a slight heart attack on July 15th, but this was followed by a massive attack July 20th from which he could not recover. He was 73 years of age. A memorial service was held July 28th in Fresh Meadows, New York.

Our deepest sympathy is with his wife Lena (Pinky), with his son J. Ernest and family of Staten Island, and with his brothers and sisters, most of whom live in the New York area.

Karl's interest in Mollusca spanned two generations, beginning after he moved to Rockaway in 1937. His brother Harold tells how he first showed Karl how to locate clams at low tide by stomping on the flats and watching them spurt (this was at Barren Island, near Floyd Bennett Field). The interest in shells developed steadily during walks on the beach with his small son, his inquisitive mind led him to study, and he amassed a wealth of material which was welcomed by the American Museum. Meanwhile he discovered shells in his own back yard, and during the years his neighborhood was being built up he would visit vacant lots for further collecting and rescue other colonies, particularly of *Cepaea nemoralis*, for transplant to his yard on Beach 139th Street, where they thrived under the ivy. In years to come, his interest in land shells would take precedence over marine or freshwater species.

As most of you know, Karl was co-founder, with Dr. Walter H. Jacobs, of the New York Shell Club, which had its first meeting in January of 1949, and founder of these NOTES which he first issued early in 1950. It was his driving force and constant interest that kept this shell club in the channels of molluscan study, as he firmly discouraged the intrusion of unrelated material.

A teacher by profession, he transmitted his enthusiasm wherever he spoke -- classroom, club meeting, or lecture hall. It was during a course of lectures he gave at the American Museum of Natural History that a publisher in the audience became interested in his manuscript, with the consequence that the first book devoted to our local shells was published in 1961: SHELLS OF THE NEW YORK CITY AREA, by Morris K. Jacobson and William K. Emerson.

His contributions to this club and to these NOTES over these many years cannot be counted, but most of all he was responsible for the formation of many lasting friendships. We will miss him, deeply.

Dorothy Raeihle

AMU 1980

The American Malacological Union's meeting at Louisville, Kentucky was an all 'round success. It was held at a conference complex, the Executive Inn, where rooms, restaurants and lecture halls surrounded a most pleasant courtyard with fountains and a swimming pool. There may have been close to 200 attending -- we did not get the exact count. Our hosts were the members of the Louisville Conchological Society. They had planned well and handled infinite details with efficiency, grace and good humor.

Delegates poured in on Saturday, July 19th, and exchanged greetings at President Clyde Roper's reception that evening. More arrived the next day, to be on hand for the formal opening of the meeting Sunday at 1:00 pm when Dr. David H. Stansbery, introduced as the Mayor of Malacology, welcomed the delegates in the absence of the Hon. William B. Stansbury, Mayor of Louisville. Following the afternoon's presentations our hosts treated us to an evening excursion on the paddle-wheeler "Belle of Louisville," giving us an appreciation of the beautiful Ohio River. We also became acquainted with some of the history of the area.

The papers during the following days accommodated everyone's specialty. A symposium on cephalopods ran concurrently with papers but the schedule had been arranged for the least possible conflict. In addition, there were workshops on (1) freshwater mollusks, (2) terrestrial mollusks, and (3) marine aquaria. There were some exciting papers re: biology and functional morphology that were triumphs of ingenuity and patient observation (more on those in a later issue.) There were many excellent slide presentations and a few motion pictures, in color, which delighted everyone.

The auction of literature was most successful, with many fine items among the offerings.

Our hosts had arranged for a week-long exhibition of shells in one of the smaller lecture halls. The displays included fossil and Recent, local mollusks and world-wide exotics -- and a growth series of twelve Conus gloriamaris. (Eat your heart out!) Another exhibit, on loan from the museum in Louisville for one day only, was of exquisitely crafted artifacts using shells with precious metals, pearls, diamonds and/or carved coral.

On Thursday evening we enjoyed an assortment of delicacies at the banquet which featured roast beef and more and more. Table decorations represented the famous "Running of the Roses," for which the city is probably better known than for its interesting history and other attributes.

Three areas were to be covered on Friday's field trips. We'd appreciate reports from those of you who were able to go collecting.

Next year the AMU will meet in Fort Lauderdale, Florida, and by coincidence the same dates in July: 20th - 25th. This will be the 50th anniversary meeting of the AMU and President Richard S. Houbrick is already making plans. Mark your calendar.

Dorothy Raeihle

HIGHLIGHTS OF THE JUNE MEETING

The nominating committee, consisting of Richard Goldberg and Bob Janowsky, proposed for reelection the incumbent officers: President, Fred Cannon and Vice-President Dorothy Janowsky for second terms; Treasurer, Mathilde Weingartner; Recording Secretary, Milton Werner; Corresponding Secretary, Marie Sussman; Historian, Nick Katsaras. There were no nominations from the floor, and by unanimous approval the secretary was empowered to cast one vote for the entire slate.

Bob Janowsky presented a slide talk based on photos he had made of shells selected from Fred Cannon's collection. The specimens were all from South India, and all were freaks. Among them were Melongena (eight, all different), Turris, Babylonia, Fusinus, Cypraea arabica, Cypraea caputserpentis, and Murex haustellum.

Fred read a letter from Dr. William K. Emerson, head of the Museum's Department of Living Invertebrates, with the information that the Museum is displaying, until September 20th, photographs taken during shelling expeditions that it has sponsored over the years. The photos are in the published reports of the expeditions, copies of which have been opened to appropriate pages. Shell photos are accompanied by specimens. The location is the entrance to the Rare Book Room, fourth floor, near the 77th Street elevators.

The main speaker was Mathilde Weingartner, whose subject was "Water." With slide photos and description, she covered its various forms -- clouds, fog, rain, snow, ice -- and the place of each in water's cyclic existence. She also touched on such phenomena as Mt. Ranier's fifteen glaciers, the hot mineral waters of Yellowstone National Park, and the geyser "Old Faithful." Tillie also outlined the mechanical uses that man makes of water, its place in the food picture, and its importance as a habitat. These led to her concluding observations, which were on the subject of pollution.

Milton Werner,
Recording Secretary

MARSH SNAILS

The Gentle Grazers

By Thomas M. Baird

A unique relationship exists between the grasses of the coastal salt marshes and three species of small herbivorous snails that find a home on and around them. These snails exist in vast numbers within the marsh, and they are totally gentle creatures. If the visitor to the salt marsh carefully removes a snail from a stalk of grass and places it on his open palm, the snail will begin crawling around within a few seconds, tentacles waving about. The interaction between these snails and the marsh grasses is one intriguing aspect of the marsh habitat.

Coastal marshes have their own unique beauty, and their importance to offshore marine life has been repeatedly demonstrated. Growing nearest to the water, with its roots and lower stalks covered daily by seawater, cord grass (*Spartina alterniflora*) abounds. On a slightly higher elevation in southern marshes is the needle rush (*Juncus roemerianus*). Living on the stalks of these grasses is a small tan or brown snail, the salt-marsh periwinkle (*Littorina irrorata*).

Life begins for the salt-marsh periwinkle in the form of a planktonic egg; adult sexes are separate and fertilization is internal. The fertilized egg develops into a typical trochophore larva, and eventually becomes a swimming veliger larva. As its shell develops, the young snail settles onto a marsh plant. Periwinkles are most plentiful in summer and fall, when the young snails colonize the cord-grass stalks. The size of the overall population is kept in check, however, by stone crabs, which feast on them.

Periwinkles crawl up and down the leaves of the cord grass, staying up high during high tide. At low tide, they may be seen crawling around the bases of the plants. Equipped with the typical trap doors, or operculums, found in most marine snails, periwinkles can withdraw into their shells for protection against cold weather or to prevent dessication. During dry periods in the marsh, or when the temperature falls below 46°F, they withdraw into their shells and secrete a sticky mucus, anchoring themselves to the cord grass above the high water mark.

Using their rasping, filelike radulas, the salt-marsh periwinkles eat small epiphytic algae that grow on the moist leaves of the cord grass. On their way down the grass stalks, the snails consume bacteria and detritus, as well as algae growing around the base of the plants. This activity is beneficial to both the plants and the snails. Without the snails, the cord-grass leaves would soon become coated with algae and bacteria, which would block the sunlight necessary for photosynthesis. As the snails keep the surface of the leaves clean, they obtain -- in turn -- food for themselves.

There is another, more far-reaching benefit, however. As the periwinkles feed, they loosen much of the algae, bacteria and detritus, not all of which are consumed. At the next high tide, this material is carried into the nearby estuary or ocean, thus providing a valuable energy source to near-shore aquatic food webs. In addition the feeding habits of the snails create more surface area upon which epiphytes can colonize. This creates more food for other lower species, which in turn are grazed upon by many commercially important organisms, especially when these organisms inhabit the marshes as juveniles.

Other marsh snails also play a role in this interaction. Coffee-bean snails (Melampus coffeus) lack operculums and must therfore remain under moist detritus to prevent drying out. Coffee-bean snails also clean the stalks of cord grass and needle rush, but they prefer higher elevations in the marsh, since they will drown on prolonged immersion. The ladder-horn snail (Cerithidea scalariformis), another marsh species that similarly contributes to the habitat, is often found in the highest marsh elevations. These snails feed on algae around the bases of the salt grasses and in the sands. Like the salt-marsh periwinkles, the ladder-horn snails have operculums, and they are able to remain dormant for a considerable period of time.

These three species provide a dramatic testimonial to the contributions of small animals to their habitat. Considering the role that these gentle grazers play in the living environment surrounding them, they deserve to be better understood by human visitors to the salt marsh.

Reprinted by permission of the author and I.O.F. from
SEA FRONTIERS 25(6) 338-341, November-December, 1979.

CEPAEA NEMORALIS IN THE PACIFIC NORTHWEST

George Holm, of Richmond, British Columbia, Canada, writes in the club paper DREDGINGS 20(3) 5, June 1980, as follows:

"A few species of local land snails including Monadenia fidelis Gray and Vallonia pulchella Muller can be found a foot or two above the ground on tree trunks and on bushes where shade and moisture permit, but as far as I know, there are no tree snails in the Pacific Northwest.

Therefore, I was a little surprised to see snails up to one inch in diameter and in colors of yellow, brown and red on the trunks and branches of Aspen and other scrub trees at the intersection of the Fraser Highway and 88th Avenue in the Municipality of Surrey in British Columbia, Canada. The species was Cepaea nemoralis Linne, but unlike the Monadenia and the Vallonia, these were observed up to fifteen feet above ground.

Cepaea nemoralis Linne is an introduced species which is slowly expanding its range up the Fraser River valley away from Vancouver, British Columbia where it has become well established. It comes in colors of yellow, red and fawn and can be either banded or unbanded. All the colors and forms were present at this location.

The species was very common throughout the area, both on the ground and amongst the grass and undergrowth, so one can only speculate whether it is overcrowding that has sent it into the trees or that our area is finally getting its own tree snail."

In the American Museum of Natural History's GUIDE TO SHELLS from

Nova Scotia to Florida (1976), on page 279 Emerson and Jacobson remark that Cepaea nemoralis, the English Garden Snail, was "widely introduced into the northern and central coastal states from northern Europe" (and) "flourish in widely separated areas from Massachusetts to Virginia, usually near or in urban areas." And, in their SHELLS OF THE NEW YORK CITY AREA (1961), page 12: "It seems to appear wherever ornamental shrubs have been imported or introduced ..." Such a method of transportation would explain its appearance in the Pacific coastal area.

dr

Foreword: Several months ago I watched a Cousteau Society film on TV wherein divers were retrieving drums of extremely toxic materials from a sunken ship. The exact area was left vague, but the circumstances were so familiar with a report published in our NOTES 218.7 that I wrote to the Cousteau Society for verification. Below is a reprint of the report in NOTES, "A Chemical 'Time Bomb'," followed by the report from the Cousteau Society:

A CHEMICAL "TIME BOMB"

A YEAR OF AN ESTIMATED TEN-YEAR CHEMICAL "TIME BOMB" has inexorably ticked away in the waters off Italy's southern Adriatic coast. The Sunday Times Survey reports a jurisdictional dispute revolving around the salvage of 250 tons of tetraethyl and tetramethyl lead that sunk in 200 feet of water after the collision last July of a ship of Panamanian registry with the Yugoslav ship "Cavtat" which was carrying 900 drums of the anti-knock lead compound.

The galvanized, painted steel drums have a life expectancy of ten years before corrosion effects allow the release of the highly toxic, non-water soluble chemical. The inevitable contamination of edible local marine populations raises fears of disastrous consequences likened to those which occurred in the mercury-polluted Minamata Bay in Japan. Further complicating the situation is the fact that warnings by health officials in the area generally go unheeded -- contaminated shellfish beds containing cholera-carrying molluscs had to be destroyed by the Italian Navy several years ago because residents refused to believe their fatal effects.

While the dispute between the Yugoslav and Italian governments rages over who will pay for the salvage, with Italy insisting the wreck occurred in international waters, British experts predict the dangers salvage operations hold. The dire toxic effects of even minor leaks of the compounds, which can be directly absorbed through the skin, they say, impose a major hazard on diving personnel. So far, only agreement on risk and expense has been reached. When the catastrophic clock finally ends its count, as yet to be determined is where the responsibility will lie or who is to accept the consequences.

from WATTS JOURNAL, Sept. 1975
in NYSC NOTES 218.7, Jan. 1976

The following report appeared in CALYPSO LOG 5(2)-April 1978, and is reprinted with the permission of the Cousteau Society:

CAVTAT COMPLETED

We are delighted to announce that the salvage of the "Cavtat" has been completed! This is the ship that sank in 1974, near the entrance to the Adriatic Sea, with 900 drums of lead tetraethyl aboard. The deadly cargo lay on the sea floor for three years while bureaucrats argued about whose responsibility it was to clear the wreck. The "Cavtat," owned by a Yugoslavian company, was rammed by an Italian freighter, and was registered under a Panamanian "flag of convenience." It sank off the coast of Otranto, at the western tip of the Italian boot.

In 1976, when it began to look like nothing would be done about the "Cavtat," The Cousteau Society published a cover story in "Saturday Review" magazine (see "Time Bomb in the Mediterranean," supplement to "Calypso Log," Volume 3, Number 3). Finally, under public pressure caused by our outcry, German tourist organizations recommended to their clients that they should avoid the area.

Judge Maritanti, in Otranto, ordered the Italian government to remove the drums of poison from the sea and worry about the costs later. Work began at the end of February, 1977, and was expertly carried on by SAIPEM, a powerful Italian salvage company. The last drums were removed in April, 1978. The total cost of the operation was about $12,000,000. An international lawsuit continues to determine who will have to pay these costs.

"Calypso" and The Cousteau Society have followed the difficult and dangerous salvage operation from beginning to end. A film was made by our Society, and a detailed report will reach you in a subsequent issue of the "Log." The salvage of the "Cavtat" is an example of responsible action governments can take on behalf of the environment. We congratulate the Italian government on the success of the operation, and hope it will set an example for other governments.

(The Cousteau Society, Inc., is located at 777 Third Avenue, New York, New York 10017. Their publication, "Calypso Log," is sent to their members by third class mail. Membership contribution to The Society (in 1978) $15.00 per year.)

A RETURN OF HAMINOEA

On a trip to Jones Beach August 8th we were pleased to find that live Haminoea solitaria and their egg capsules were present in the silty sand east of the fishing piers. This is the first occurrence here in some years, as the area had become polluted, with a layer of sludge, in which nothing lived, covering the substrate. This time the sludge was not so evident, and there were patches of healthy-looking algae.

The outstanding feature of these fragile bubble shells (aside from their return to this station) was their larger than average size. Of 42 specimens measured, half were 14mm and more, with one specimen 17mm. Egg cases were comparably large, generally 15mm-17mm in diameter with one case measuring 20mm. The living and fresh-dead shells had orange-brown periostracum, and invariably each served as a holdfast for a strand of seaweed. We hope to make further observations.

Dorothy Raeihle

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NEW YORK SHELL CLUB NOTES No. 265 October 1980 Memoir

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NEXT MEETING: SUNDAY, OCTOBER 12, 1980, at 2:00 pm

PROGRAM: SHELLS: FORMATION, FORMS, AND FUNCTION
by Robert Janowsky

This issue is devoted to Karl Jacobson, the man, his writings, and his influence on so many of us. He steadily encouraged the amateurs to report their observations -- however small -- in these NOTES, as the observations might be unrecorded and would add to the general knowledge of Mollusca.

His presentations at New York Shell Club meetings and his writings for these NOTES enlivened and instructed. His many articles and reviews are listed in the indices of "New York Shell Club Notes."

dr

At the 1980 meeting of the American Malacological Union in Louisville, Kentucky, the membership voted Karl an Honorary Life Member for his contributions to the science of malacology, while still unaware of his passing. It is an honor of which he would have been proud.

dr

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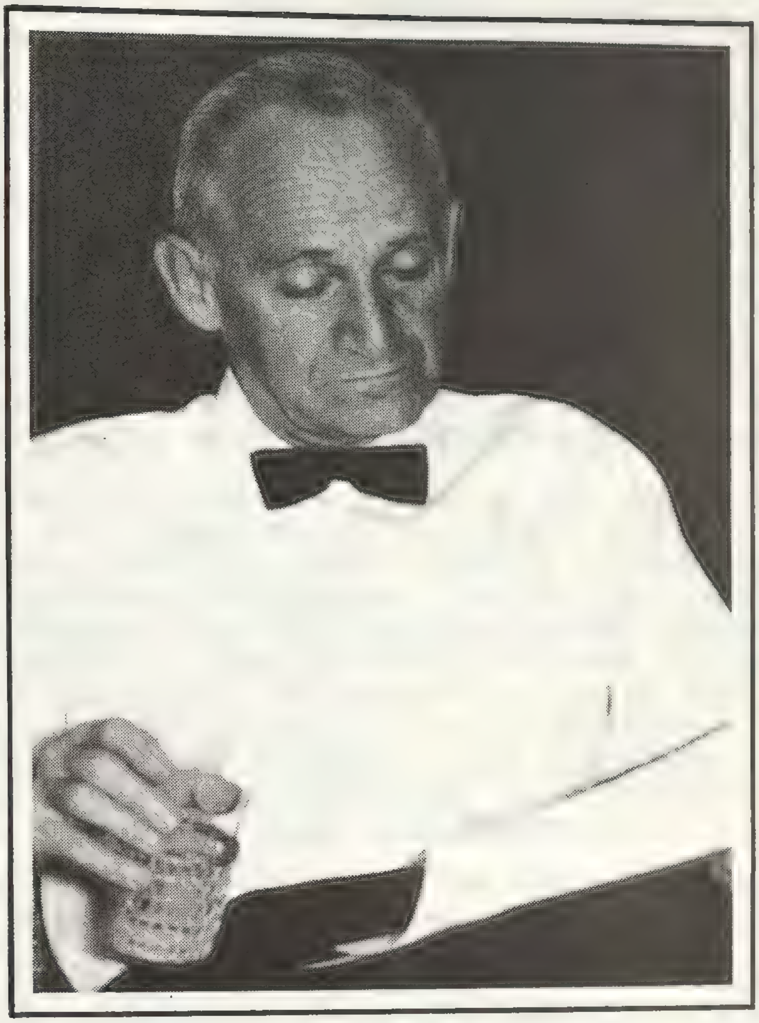

MORRIS KARL JACOBSON

December 29, 1906 — July 21, 1980

MORRIS KARL JACOBSON

1906 — 1980

Although Karl Jacobson was formally trained in linguistics and was a highly respected teacher of foreign languages in the New York City school system for more than thirty years, he nevertheless was a frustrated student of natural history. He became interested in mollusks when he moved to Rockaway Beach in 1937. He collected exhaustively everywhere in the New York City area and made collecting trips to Cuba, Mexico, Jamaica, Puerto Rico, and Central America, as well as several of the Lesser Antilles. As a result of these excursions, and by exchanging with collectors from all parts of the world, Karl assembled a large and well-documented reference collection of mollusks, which formed the basis for several of his scientific publications, totaling some 70 titles. Several of his titles were contributions to a monographic study of the Cuban land snails of the family Helicinidae in collaboration with Drs. William J. Clench and Kenneth J. Boss of Harvard University. His papers reflected his broad interests in malacology and dealt with marine and freshwater mollusks, as well as with terrestrial gastropods.

Shortly after I joined the staff of the American Museum of Natural History, Karl asked me to co-author with him the handbook, "Shells of the New York City Area" (1961), which was based largely on his local collecting experience. In all, he co-authored eight popular books, ranging from the semi-technical "American Museum of Natural History Guide to Shells" (1976) to six titles in the prestigious juvenile readership "Wonders" series of Dodd, Mead (1971 to 1980), dealing with a diversity of invertebrates, including mollusks, sponges, corals, starfish, and jellyfish. Additionally, Karl contributed numerous articles and book reviews to the "New York Shell Club Notes" and other publications.

Karl was a strong supporter of the malacological program of the American Museum of Natural History, where he held the honorary title of Associate in Malacology, commencing in 1964. His contributions included the gift of his valuable shell collection (marine in 1969; land and freshwater in 1972), and his extensive collection of reprints of articles on mollusks (in 1977). He also made generous contributions to the Malacology Research Fund of the museum.

Karl's scholarly achievements, especially in the fields of teaching, science, and writing, are legacies to the intellectual betterment of mankind. His many friends and colleagues will best remember him, however, for his seemingly endless energy in the pursuit of knowledge and for the invigorating contagiousness of his zest for life.

William K. Emerson

Curator of Mollusks
American Museum of Natural History

KARL JACOBSON

My first memory of Karl was at a meeting at the home of William Weeks in Brooklyn early in 1940. The Weeks' collection, amassed over a period of more than fifty years, was as good a place as any to have first met Karl. We didn't say much then because of his interest in land snails and my interest in marine mollusks. I don't recall meeting him very often until I received a letter or phone call in 1947 or 1948, relative to getting together with a few other interested collectors for the formation of a shell club. Out of this meeting and subsequent ones, the New York Shell Club began. The origin of the "New York Shell Club Notes" was completely Karl's idea. He took care of typing, printing, and mailing by himself for the first few years. It was his interest in getting a variety of papers to publish that got me started in writing. The Club activities began to bring various friends together regularly. But Karl and I and our families met much more frequently. This continued through most of the twenty or so years that I remained in New York.

The first A.M.U. meeting we attended together was at Cambridge in 1952, and we attended the memorable 1954 meeting in New Hampshire with our families. It was in the summer of 1955, I believe, that Betty Wistar, a Philadelphia collector, asked Karl to auction her shells for her. It was perhaps the first notable collection of land and sea shells to be offered at auction since the 19th century. Karl asked me to help him with the sale because of my more intimate knowledge of the rarity and commercial value of shells. This equal partnership continued for several auctions of Miss Wistar's collection.

The next memorable occasion that I recall was our attendance at the joint meeting of the eastern and western divisions of the American Malacological Union in San Diego in 1956. For me it was especially important, since I then decided that I would some day live in San Diego - not too far from Balboa Park (and I'm still here within sight of the Museum and the Park).

The almost weekly social get-togethers with our families, the meetings of the New York Shell Club, the gatherings for putting together the "Notes" at my home in Valley Stream, and attendance at the A.M.U. conventions, were long standing influential events in our lives as well as those of our wives, Pinky and Rose.

Karl asked me to illustrate his "Shells of the New York City Area" (Argonaut Books, 1961). The book, in its finished form, was co-authored by Bill Emerson and the whole project turned out to be a labor of love. We didn't receive any remuneration until ten years later when the book was reprinted by Dover Press as "Shells from Cape Cod to Cape May."

To the end, Karl retained his scientific interest in the study of land mollusks, especially those from Cuba. These studies resulted in his numerous published papers on the taxonomy of Cuban land snails.

In closing, it is worthwhile to note how an interest that starts as a hobby can many times influence our careers in part or entirely.

Anthony D'Attilio

San Diego Natural History Museum
(Charter member of New York Shell Club; President NYSC 1955, 1956.)

MORRIS K. JACOBSON

A Gentleman and a Scholar

From my first meeting with Morris, his character and personality typified the old but true description of a Gentleman and a Scholar. We had been in telephone contact about our mutual interest in shells and had decided to meet at the information booth in Grand Central Station, Manhattan. A cold night in November, 1948 found us near the booth, each holding up a shell so that we might recognize each other.

From an interest in the names and types of the common shells found on the beaches of Rockaway, where he was living, he became one of our outstanding conchologists. His handbook, "Shells of the New York City Area," and his other publications have become classics in the field. His many papers in the "Nautilus" and other scientific publications attest to his profound knowledge of the subject. He became an authority on the land snails of Cuba.

He was the first president of the New York Shell Club and in every possible way helped to build the club to its present outstanding position in the study, hobby, and science of conchology. With a grand sense of humor he would teach, describe, argue and assist in all manners with those needing help. To Morris, the club was a personal triumph and achievement. One could feel the pride he experienced when he spoke of the club.

Again, the only way to truly describe this outstanding Man of Mollusca is as a Gentleman and a Scholar, but above all, to me, he was a FRIEND.

Walter H. Jacobs

(Co-founder of New York Shell Club, 1949; President NYSC 1953, 1954)

MKJ - EDITOR

The photograph accompanying this issue was taken in 1962 at the home of Tony and Rose D'Attilio where we had gathered to print and collate an issue of "New York Shell Club Notes." George snapped this unposed photo as Karl was absorbed in editing a manuscript.

dr

MORRIS K. JACOBSON

I first met Morris Karl Jacobson some time in the middle of the 1940's at one of the AMU meetings and soon after we became close friends. This held until last May when I met him at Tucker Abbott's home in Melbourne, Florida. Tucker and Cecelia had planned to take Karl to the AMU meeting in Louisville, Kentucky, but his first heart trouble prevented him from making the trip.

Karl had made many trips from New York to Harvard University, mainly during the summer season, and this continued for many years after my retirement in 1966. We published together six papers between 1966 and 1971. We each had been to Cuba and we both enjoyed the work on the remarkable land snails collected in the Province of Pinar del Rio, the western end of Cuba, mainly in the region of the Sierra de los Organos.

William J. Clench

Curator Emeritus
Museum of Comparative Zoology

WONDERS OF SNAILS AND SLUGS

by Morris K. Jacobson and David R. Franz.

Dodd, Mead & Co., 1980. 96 pages including glossary and index, 33 black and white photos, 8 line drawings. Price $5.95.

In "Wonders of Snails and Slugs" the writers compress the information on gastropods into a compact tome for the young reader. There are chapters on land snails, and land slugs, marine snails, freshwater snails, and sea slugs (=nudibranchs). Sections are devoted to the shell, to anatomy, locomotion, feeding, reproduction, to disease-bearing snails, as well as to 'snails and mankind.'

The book is profusely illustrated with excellent black and white photos and line drawings. Being normally dextral, snail shells seem to be the bane of publishers, since pictures appearing in publications are frequently inadvertently 'flopped' and printed backwards. (Would that left-handed shells were as plentiful in nature as are those appearing in periodicals!) The present book is no exception: The cone shell plate on page 8, and Cepaea nemoralis, pages 16 and 64, are all reproduced 'backwards.' Incidentally, the Physa snail illustrated in the frontispiece and on page 45 is printed correctly; this genus of freshwater snails normally have sinistral shells. The Limax plate on page 86 is exceedinly dark in the reproduction.

Depicted on the front of the dust jacket is a beautiful pink and purplish nudibranch, Coryphella pedata, and on the jacket back, also in full color, Simnia acicularis on soft coral. "Snails and Slugs" is worthwhile as Karl's last book, even if it had no other commendation.

William E. Old
American Museum of Natural History

MORRIS KARL JACOBSON

Born: Memel, East Prussia (now Klaipeda, Lithuania), December 29, 1906.

Died: Melbourne, Florida, July 21, 1980.

Education: B.S. - New York University, 1928; M.A. - Columbia University, 1930.

Positions Held: Teacher of German, Spanish, French for Board of Education, New York City, 1935-1953.

Chairman, Department of Foreign Languages, Andrew Jackson High School, Queens, New York 1953-1968 - Retired.

Co-founder New York Shell Club 1949.

First President New York Shell Club 1949-1952.

Editor New York Shell Club Notes 1949-1959.

Special Editor New York Shell Club Notes 1959-1980.

President American Malacological Union 1954-1955.

Associate in Malacology, American Museum of Natural History 1964-1980.

SCIENTIFIC PUBLICATIONS

1943 Marine Mollusca of New York City. Nautilus **56**(4):139-144 (also, ibid. **57**(1):31).

1944 A molluscan "mass grave." Nautilus **57**(4):133-135.

Variations of *Spisula solidissima* Dillwyn. Nautilus **57**(3): 100-104.

1945 A list of the Mollusca of Warren County, New York. Nautilus **59**(1):26-29.

On *Triodopsis albolabris traversensis* Leach. Nautilus **59**(2): 68-69.

1946 *Cepaea nemoralis* in Rockaway Beach. Nautilus 60(1):2-4 (with Walter Smit).

1949 A note on *Chondropometes magnus* Torre and Bartsch. Revista Sociedad Malacologica "Carlos de la Torre" **7**:6.

In Pinar del Rio. Nautilus **62**(3):78-86.

1950 More on the status of *Vallonia excentrica* Sterki. Nautilus **64**(2):70.

The land snails of Jamaica (2 parts). Natural History Notes of the Natural History Society of Jamaica, no. 41, pp. 89-93, and no. 42, pp. 113-114.

1951 Two new molluscan records from the New York City area. Nautilus **64**(3):104.

Discus rotundatus Müller in New York. Nautilus 65(1):34-35 (also ibid. 65:105, 1952).

Some interesting localities on a collecting trip to Mexico. Nautilus 65(4):109-114.

The distribution of *Zachrysia guanensis* Poey and its subspecies in the area of Luis Lazo, Cuba. Revista Sociedad Malacologica "Carlos de la Torre" 8:123-125.

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1953 *Ventridens* in Staten Island, New York. Nautilus 66(3):99-101.

Congeria leucophaeata Conrad in the Hudson River. Nautilus 66(4):125-127.

1954 *Discus rotundatus* Müller in New Jersey and New York. Gastropodia 1:9-10.

1955 A new *Macroceramus* from Puerto Rico. Archiv. f. Molluskenkunde 84(1/3):97-99.

Catalogue of land and freshwater shells collected by William T. Davis. Proceedings of Staten Island Institute of Arts and Sciences 17:1-7.

Observations on *Donax fossor* Say at Rockaway Beach, New York. Nautilus 68(3):73-77.

1956 Malacological notes from western Cuba. Nautilus 70(1):1-3.

1958 Results of the Puritan-American Museum of Natural History Expedition to Western Mexico, part 3, the terrestrial mollusks. American Museum Novitates no. 1899, 14pp.

1959 A new operculate land snail from Haiti. Nautilus 72(4):111-115 (with Oscar Alcalde).

1964 On *Rhytidothyra jacobsoni* Alcalde. Nautilus 77(3):97-101.

Terrestrial Mollusks of the Belvedere Expedition to the Gulf of California. Trans. San Diego Soc. Nat. Hist. 13(16):313-332 (with William K. Emerson).

1965 New Records for New York and New Jersey. Nautilus 78(4):83-85.

On Some Land Shells of Eleuthera, Bahamas. Nautilus 78(4): 120-125.

Preliminary Remarks on the Land Mollusks of Nicaragua. Ann. Rept. Amer. Malacol. Union, pp. 3-4.

1966 A New *Streptostyla* from Nicaragua. Nautilus 79(3):101-103.

On the identity of *Spisula similis* (Say). Ann. Rept. Amer. Malacol. Union, pp. 30-31 (and William E. Old).

What is *Arca caelata* Reeve? Nautilus 80(1):10-13.

On *Ampullina* Guppy. Nautilus 80(2):71 (with William J. Clench.

1968 On a Collection of Terrestrial Mollusks from Nicaragua. Nautilus 81(4):114-119.

The Land Mollusks of St. Croix, Virgin Islands. Sterkiana no. 32, pp. 18-28.

Monograph on the Cuban Genus *Viana* (Mollusca: Archaeogastropoda: Helicinidae). Breviora no. 298, 25 pp., 4 pl., 5 maps (with William J. Clench).

Progress Report on the Revision of the Cuban Helicinidae. Ann. Rept. Amer. Malacol. Union, pp. 40-41.

1969 On *Lymnaea pseudopinguis* F. C. Baker. Nautilus 82(3):110-112.

1970 The Land and Freshwater Gastropods Collected in Cuba by M. G. Rutten. Bull. Zool. Mus. Univ. Amsterdam 1(15):221-233.

Soviet contributions to malacology. Veliger 13(2):199-202 (with Kenneth J. Boss).

The Genus *Priotrochatella* of the Isle of Pines and Jamaica, West Indies. Occ. Pap. on Moll. 3(39):61-80 (with William J. Clench).

1971 On some *Helicina* from the Dominican Republic. Nautilus 84 (3):101-107 (and William J. Clench).

Monograph on the Cuban Genera *Emoda* and *Glyptemoda* (Mollusca: Archaeogastropoda: Helicinidae). Bull. Mus. Comp. Zool. 141 (3):99-130 (with William J. Clench).

On a sinistral chondropomine from Jamaica. Nautilus 84(4): 127-128 (with Kenneth J. Boss).

A monograph of the genera *Calidryiana*, *Ustronia*, *Troschelyiana*, and *Semitrochatella* in Cuba. Bull. Mus. Comp. Zool. 141 (7):403-463 (with William J. Clench).

Index to the Revista de la Sociedad Malacologica "Carlos de la Torre." Sterkiana no. 44, pp. 1-44.

On *Helicina biconica* Martens and *H. viridis* Gray, *non* Lamarck. Arch. Molluskenkunde 101(5/6):295-296.

1972 Soviet contributions to malacology. Veliger 14(4):437-440 (with Kenneth J. Boss).

Malacology in Cuba. Sterkiana no. 45, pp. 37-42.

Observations on the siphonal behavior of young surf clams, *Spisula solidissima*. Nautilus 86(1):25.

1973 Some notes on sexual dimorphism in the shark eye, *Polinices duplicatus* (Say) at Rockaway Beach, New York. Ann. Rept. Amer. Malacol. Union, p. 27.

Soviet contributions to malacology in 1971. Veliger 15(4): 362-366 (with Kenneth J. Boss).

An unusual habitat for the rough file shell, *Lima scabra* (Born, 1780). Veliger 16(1):85-86 (and Leonardo Hernandez).

The Jamaican land shells described by C. B. Adams. Occ. Pap. on Moll. 3(47):305-519, pls. 54-91 (and Kenneth J. Boss).

On the identity of *Helicina granulum* Pfeiffer. Nautilus 87 (4):107-109.

Monograph of the Genus *Alcadia* in Cuba (Mollusca: Prosobranchia: Helicinidae). Bull. Mus. Comp. Zool. 145(7):311-358 (with Kenneth J. Boss).

Monograph of *Ceratodiscus* (Archaeogastropoda: Helicinidae). Occ. Pap. on Moll. 3(45):253-279 (with Kenneth J. Boss).

1974 On a sinistral specimen of *Liguus virgineus* (with additional remarks on the Genus *Liguus*). Nautilus 88(1):28-29 (and William E. Old, Jr.).

Charles Wright (1811-1885) in Cuba as revealed by his letters. Sterkiana no. 83, pp. 1-6.

Monograph of the genus *Lucidella* in Cuba (Prosobranchia: Helicinidae). Occ. Pap. on Moll. 4(48):1-27 (with Kenneth J. Boss).

Catalogue of the taxa of *Lucidella* (Prosobranchia: Helicinidae). Occ. Pap. on Moll. 4(49):29-38 (with Kenneth J. Boss).

1975 Proserpine snails of the Greater Antilles (Prosobranchia: Helicinidae). Occ. Pap. on Moll. 4(51):53-92 (with Kenneth J. Boss).

Catalogue of the taxa of the subfamily Proserpininae (Helicinidae: Prosobranchia). Occ. Pap. on Moll. 4(52):93-102 (with Kenneth J. Boss).

Felipe Poey with a catalogue of the Mollusca described by him. Occ. Pap. on Moll. 4(53):105-132 (with Kenneth J. Boss).

Soviet contributions to malacology in 1973. Veliger 17(4): 408-413 (with Kenneth J. Boss).

Type material of some Cuban helicinids. Nautilus 89(2):54-55.

The freshwater prosobranch, *Tarebia granifera*, in Oriente, Cuba. Nautilus 89(4):106.

1976 Some remarks on Felipe Poey's 'Memorias sobre la historia natural de la isla de Cuba.' Ann. Rep. West. Soc. Malacol. 9: 55-58.

Soviet contributions to malacology in 1974. Veliger 18(4): 411-417 (and Kenneth J. Boss).

1977 Felipe Poey of Cuba and his 'Memorias.' Sterkiana no. 65-66, pp. 1-4.

Soviet contributions to malacology in 1975. Veliger 19(4): 440-445 (and Kenneth J. Boss).

POPULAR BOOKS

1961 Shells of the New York City Area. Argonaut Books, Larchmont, New York. pp. xviii + 142 (with William K. Emerson, illustrated by Anthony D'Attilio).

1971 Wonders of the World of Shells: Sea, Land and Fresh-Water. Dodd, Mead & Co., 80 pp. (and William K. Emerson).

1971 Shells from Cape Cod to Cape May. (Revised and reprinted edition of Shells of the New York City Area). Dover Publications, Inc., pp. xviii + 152.

1976 The American Museum of Natural History Guide to Shells, Land, Freshwater, and Marine, from Nova Scotia to Florida. Alfred A. Knopf, pp. 482 + xviii (with William K. Emerson).

1976 Wonders of Sponges. Dodd, Mead & Co., 80 pp. (and Rosemary K. Pang).

1977 Wonders of Starfish. Dodd, Mead & Co., 80 pp. (and William K. Emerson).

1978 Wonders of Jellyfish. Dodd, Mead & Co., 80 pp. (and David R. Franz).

1979 Wonders of Corals and Coral Reefs. Dodd, Mead & Co., 80 pp. (and David R. Franz).

1980 Wonders of Snails and Slugs. Dodd, Mead & Co., 96 pp. (and David R. Franz).

POPULAR WRITINGS and BOOK REVIEWS

Numerous articles and book reviews in "New York Shell Club Notes" and other journals.

Compiled by William K. Emerson and William E. Old, Jr., American Museum of Natural History, July 30, 1980.

NEW YORK SHELL CLUB INC.

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The NEW YORK SHELL CLUB meets on the second Sunday of each month, September through June, in

ROOM 426, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, NOVEMBER 9, 1980, at 2:00 pm

PROGRAM: MISADVENTURES OF A LANDSHELL COLLECTOR
by Harold Feinberg

MINI-TALK: DISPLAY AND STORAGE
by Fred Cannon

DISPLAY CASE by Harold Feinberg

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HIGHLIGHTS OF THE SEPTEMBER MEETING

After welcoming the members present to the new season of meetings and taking care of old business, President Fred Cannon made the formal announcement of the death of Karl Jacobson. In recognition of Karl's contribution to the existence and activities of the Club, Fred called for a minute of silence.

Since there was no projector in the room, and no one on duty in the Guest Services Department, the planned presentation by Bob Janowsky had to be postponed.

Bill Old reported on the 1980 AMU meeting in Louisville, noting that one item of business was to declare Karl an Honorary Life Member. The news of his death was received at the meeting not long afterward.

Richard Goldberg reported on the 1980 Conchologists of America meeting in Key West, noting that the 180 members who assembled made this the largest COA meeting so far.

The time left by the cancellation of the scheduled talk was filled in with a visit to the Museum's display of photographs and shells from its shelling expeditions over the years.

Milton Werner, Recording Secretary

PUBLICATIONS ON KENTUCKY'S FOSSILS

Those of you who collected fossils on the AMU field trips last July may be interested in obtaining the following BULLETINS OF AMERICAN PALEONTOLOGY, available from the Paleontological Research Institution, 1259 Trumansburg Road, Ithaca, New York 14850. An allowance for postage should be added to the prices quoted which are from their listing of October 1979:

No. 189, Vol. 41: Wisconsin Molluscan Faunas from Jefferson County, Kentucky. Ruth G. Browne and Donald E. McDonald. August 5, 1960. 24pp., 4 pls., $1.25.

No. 241, Vol. 54: Wisconsin Molluscan Faunas from Henderson County, Kentucky. Ruth G. Browne and Pamela M. Bruder. June 25, 1968. 85 pp., 3 pls., $2.25.

A MAJOR ACQUISITION OF SHELLS RECEIVED BY AMNH

A large and scientifically valuable collection of worldwide cone shells was generously donated to the American Museum of Natural History by Thomas and Virginia Munyan of Margate, New Jersey. The collection consists of approximately 2,200 specimens representing more than 400 species, some new to the Museum's previous holdings. The Munyans acquired the collection during the past 25 years by selective purchase from dealers and by personal collecting trips to Africa, Australia and the South Seas. The collection is rich in growth series, rare color forms, and unique specimens such as morphological freaks. The Munyan collection, considered by specialists as one of the finest private collections of Conidae in the world, considerably enhances the Museum's taxonomic and geographical representation of this family of marine gastropods.

William K. Emerson
October 3rd, 1980

AMU COMMITTEE SEEKS INFORMATION ON DORMANT COLLECTIONS

The AMU Council of Systematic Malacologists has established a "Committee for Relocating Unused and Unwanted Malacological Collections" (RMC Committee). The main functions of the ad hoc committee are: (1) to investigate the status of dormant collections, both private and institutional, and (2) to follow national guidelines for malacological collections to find the best repository for the unwanted collections.

Your help in letting both private and institutional keepers of the dormant collection know of our activity is greatly appreciated. Furthermore, if you know of any dormant malacological collections, please notify me at the following address:

Shi-Kuei Wu, Chairman RMC Committee
Museum - Box 218
University of Colorado
Boulder, Colorado 80309

(As announced in Texas CONCHOLOGIST XVI(4):104, July 1980.)

REVIEWS: The following book reviews by Hans Bertsch, Curator of Marine Invertebrates, San Diego Natural History Museum, appeared in The FESTIVUS XII(6):80-81, June 1980, of the San Diego Shell Club, Inc.

INDO-PACIFIC MOLLUSKS: TWO RECENT CONTRIBUTIONS

Hans Bertsch

Cernohorsky, Walter O. 1978. TROPICAL PACIFIC MARINE SHELLS. Pacific Publications, Sydney. 352 pp., 68 plts., 17 text figs.

Kay, E. Alison. 1979. HAWAIIAN MARINE SHELLS. Reef and Shore Fauna of Hawaii, Section 4: Mollusca. Bernice P. Bishop Museum Special Publication 64(4):xviii + 653 pp., 195 text figs.

Two recently published books highlight aspects of Indo-Pacific molluscan studies. They serve two different purposes, emphasized by their different taxonomic and geographic coverage, writing style, and illustrations.

Cernohorsky's TROPICAL PACIFIC MARINE SHELLS (TPMS) should have been titled "Marine Shells of the Pacific, Vol. III," despite the author's disclaimer that the name change was at the request of the publisher to prevent "confusion among collectors." Most dedicated conchologists are certainly capable of distinguishing I, II, and III. This work is not a faunal study, but descriptions and illustrations of many shells from various parts of the Indo-Pacific. It is an identification guide for shell collectors, but is not comprehensive. If one has all three volumes, the collector's chance of identifying any particular shell is increased. Because of the random selection process for shells included in the volume, the work is awkward to use. If one does not find a shell in Volume III, one goes to Volume II; if not there, to I, in each case having to use an additional index. Obviously, to have published a synoptic index in TPMS to all three volumes would have facilitated use of this series. In several places (pages 72, 91, 106-107, 119-120, and 145) are lists of nomenclatural changes for taxa discussed in Volumes I and II. None of these species discussions are indexed. The arrangement of species within a genus is haphazard -- with no apparent order. One is given the impression that the species descriptions were written and the specimens photographed as they arrived on the author's desk, with no subsequent thought to rearranging the material into a coherent pattern. A simple alphabetical sequence of species within genera would help the reader to find species (especially among the 100+ species of Conus).

The systematic overview of molluscan classification is useful. Treating Polyplacophora and Aplacophora as subclasses of Amphineura is not consistent with most modern usage, in which they are afforded full class rank. I was especially glad to see at least a token inclusion of various nudibranch families. Use of dorid, dendronotid, arminid and eolid divisions would have given a systematic arrangement to what is now simply a list of families. Of minor concern is the misspelling of several families (Polyceridae, Tethydidae, and Dotonidae, sic).

The book shows evidence of significant scholarly research which is not reflected in the scanty literature cited section; moreover, few references and justifications are given in the text for validation of synonymies and other informations presented. Perhaps an identification guide should not be expected to give all the pertinent literature.

Each species treated is illustrated by a photograph in the plate section at the back of the book, has a brief written description of salient shell characters, and a very brief indication of its general range of occurrence.

The book is written by a known expert on Indo-Pacific mollusks. Given his familiarity with shells, it can be used by the shell collector hobbyist to identify his or her specimens with a reasonable guarantee of accuracy. Used in conjunction with its predecessor volumes, TROPICAL PACIFIC MARINE SHELLS fulfills that purpose.

HAWAIIAN MARINE SHELLS is the mollusk portion of the Bishop Museum's multi-volume revision of C. H. Edmondson's REEF AND SHORE FAUNA OF HAWAII. This prestigious series has a high quality of editorial control, and Kay's work is a worthy volume. This book is a comprehensive malacological faunal overview, similar in style and intent to A. Myra Keen's masterpiece, SEA SHELLS OF TROPICAL WEST AMERICA. Kay carefully documents the majority of her statements, properly acknowledging the other scientists upon whose work any researcher is dependent. All of her references are detailed in the literature cited, including the authorship of the species. The reader can readily determine the basis for synonymies and sources for other information presented.

The introduction consists of an excellent survey of the ecology and zoogeography of Hawaiian marine mollusks, their human exploitation and study, and the natural history of the islands.

Besides being an authoritative guide for the identification of almost all the Hawaiian mollusks, it also introduces major aspects of the biology of these animals and gives the researcher a ready entry into the literature.

There are a number of new species described in the book. Regrettably they are not separately indexed; a separate listing of these new taxa should have been included.

For a majority of species the known range in the Hawaiian chain is not specified. Since these islands stretch across 1600 miles, animals known only from some of the islands have a different distribution than those known from all the islands. It would also have been appropriate to have given more information about the illustrations (including specimen collecting locality of an original picture).

Both of these recent books were written by well-known researchers. They are different in extent of coverage (Kay's is a fairly comprehensive faunal guide), amount of information and literature sources given (Cernohorsky has written a conchological book, whereas Kay has authored a malacological reference work). The prospective purchaser of either volume must keep these differences in mind.

This reviewer personally prefers Kay's volume, because it is more complete, is easier to use, has well-documented references, and contains a great amount of information on the biology and natural history of mollusks.

(TROPICAL PACIFIC MARINE SHELLS, Pacific Pub., approximately $28.30.)
(HAWAIIAN MARINE SHELLS, Bishop Museum Press, $30.00.)

MISSISSIPPI MUSSEL HUNTERS

Carol Bodine

Since I live in Indiana, freshwater shelling is nothing new to me. Over the years I have accumulated a nice collection of Indiana and Michigan freshwater species. It was only natural that when I saw some of the beautiful molluscs being taken from the Mississippi River, I would want to add some of those to my collection also. So the first weekend I had free, which just happened to be the Labor Day weekend, I took off for the muddy Mississippi. Fellow shellers had given me a general idea of where the "good" shelling spots were, and I took along a Rand-McNally map to help me find them. The former was somewhat helpful in my quest, the latter was practically useless.

I maneuvered through the Chicago traffic with little effort and soon found myself on the long, boring (but fast!) broad expanse of I-80. My destination was Rapid City, Illinois, which I sighted in five hours; now to find a shelling site. Many of the landmarks I had been given had either changed names or disappeared all together. However, the main starting point, the I-80 bridge over the Mississippi, was still there. It was the only "landmark" that was. I stopped under the bridge and did some shelling there. The water was very high, but I did get a few nice pairs of Ellipsarea lineolata and Truncilla truncata.

Fortunately for me, the bridge was being repainted and one of the workmen, curious as to what I was doing, came over to talk to me. When he found out what I wanted, he gave me directions to some very productive sites, and indirectly led me to the best freshwater shelling site I'd ever run across. He also told me that clams were still harvested from the river each year and gave me directions to the sand bars from which they were taken. Unfortunately, those sand bars were in the middle of the river and I didn't have a boat. But I was grateful for all the information this stranger passed on to me.

I got back in my car and started off toward his first suggested site. On my way there I went by one very small area beside the river that had neither a house nor a NO TRESPASSING sign. To one side of it a huge runoff pipe drained into the river. I cautiously picked my way through a shaky marshy area to the bank. There I stopped in a state of shock. There were clams everywhere! Dozens of mussels ploughed their way through the sandy bottom. The sand bar seemed to stretch to eternity. The water was very shallow, a foot at the deepest, and crystal clear -- so much for the "muddy" Mississippi tale!

In addition to all that, there were literally hundreds of perfect, hinged pairs lying in piles all along the shore and in the marshy weeds. Just as my mind registered these facts, my eyes caught a movement in the bushes near the road. I focused on the movements in time to see a ringed tail disappear into the woods. A raccoon. When I looked back to the piles of dead shells I saw the 'coon tracks everywhere in the mud. This, then, was the raccoons' restaurant, Nature's answer to McDonalds. I wasn't the only one after molluscs.

I gathered up all of the dead clams, many of them so fresh that they still had moist, tender pieces of the animal in them. None of the shells had a chip on them. (I'd love to have the 'coons technique for opening clams. I'd always thought they broke them open on rocks, but this proved me wrong). I took very few live clams, only those species that the 'coons themselves didn't take.

The 'coons seemed to prefer *Truncilla truncata* and *Quadrula quadrula* over the other shells, even though other species such as *Quadrula pustulosa* and *Quadrula nodulata* seemed equally accessible, both in regard to overall numbers and proximity to the shore. For some reason the 'coons rarely ate them.

When I got home, I sorted the raccoons' catch. The breakdown went like this:

120 - *Quadrula quadrula*
93 - *Truncilla truncata*
4 - *Quadrula pustulosa*
6 - *Obliquaria reflexa*
1 - *Amblema plicata perplicata*
3 - *Ellipsaria lineolata*
227 Total

I found that, though I could collect all of these live in this area, that the three *Quadrula* species -- *nodulata*, *pustulosa* and *quadrula* -- were the commonest in the area, with *Amblema plicata perplicata* a close second. Yet the 'coons ate none of the *Quadrula nodulata*, only four *Quadrula pustulosa*, and only one *Amblema*. The preference was too marked to be chance or coincidence, and it was puzzling.

I can understand perhaps that the *Amblema* could be quite different from the *Quadrula quadrula* and hence was avoided by the raccoons. But I was at a loss to explain the marked preference between three closely related species. Perhaps the 'coons don't like the rounder shells of *Quadrula nodulata* and *Q. pustulosa*, or perhaps there is a difference in taste (which I doubt). Whatever the case, I am grateful for the 'coons preference. You see, *Quadrula quadrula* with its pastel oranges, pinks, and yellows is a far prettier shell than either *Quadrula pustulosa* or *Q. nodulata*, and a very "hot item" for trading. So I have benefited greatly from the raccoons' cast-off dinner plates, so much so that I am considering taking one of our local 'coons with me on my next freshwater expedition. I wonder now . . . .

Reprinted from TIDE-INGS 9(1-2-3):20-21, Jan.-Feb.-Mar. 1980.
The publication of the Crown Point Shell Collectors Study Group, Inc., Box 462, Crown Point, Indiana 46307.

Editor's Note:

The *Quadrula* get their name from their shape. The Latin word "quadrula" means "a little square," and these thick-shelled freshwater mussels -- or clams, if you wish -- are often quite squarish in shape. Various species of *Quadrula* and other sturdy freshwater bivalves were used in the manufacture of buttons in the years before the advent of plastics.

dr

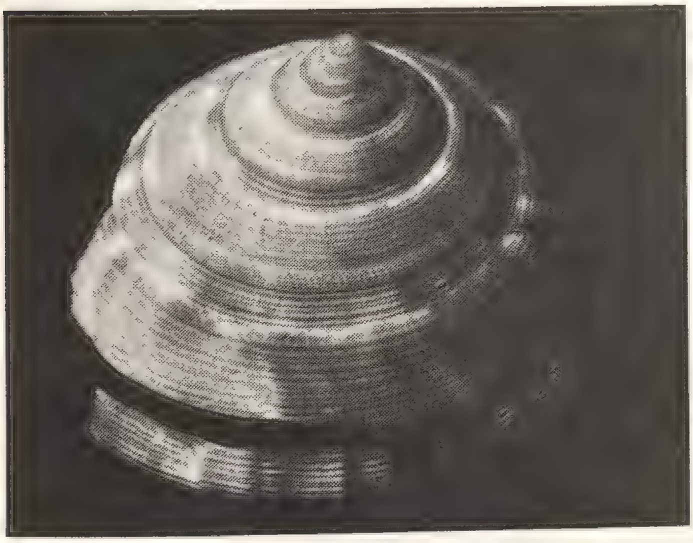
PLEUROTOMARIA LUCAYA Bayer, 1965

Robert H. Janowsky

There is something about the shells which comprise the family Pleurotomariidae that can completely captivate even the most rational of shell collectors. Perhaps it is because early in our lives as collectors we learn and become immersed in the history and mythology surrounding the "Emperor's Slit Shell" (*Mikadotrochus hirasei* Pilsbry, 1903), but more certainly it is the fantastic colors and beautiful shapes of these primitive snails that so appeal to us. All species of *Pleurotomaria* are found at great depths and are reported to live on the sheer sides of rock walls where they are almost impossible to obtain by any conventional technique.

My good friend John Lightbourne has had a great deal of success (and also a great deal of hard work) in collecting crabbed specimens of *Pleurotomaria adansoniana* in deep water off Bermuda in baited traps. Live-collected specimens are, from time to time, obtained in fish nets in deep water in various parts of the world, but these are probably fortuitous finds since the Pleurotomariidae are not bottom dwelling species.

Although two new species of *Pleurotomaria* have been named in the past few months (one from Japan and one from the Philippines) I know of fewer than twenty described species. Nine of these species can be found in the western Atlantic. Most of these species are rather small in size and all are very rare in collections. The illustrated specimen is one of the smallest (approximately 29mm in diameter) and certainly one of the rarest and most attractive of the western Atlantic species. It is one of the few known specimens of *Pleurotomaria* (*Pterotrochus*) *lucaya* F. M. Bayer, 1965. This specimen was dredged at approximately 600 feet depth in the Straits of Florida. Bayer's type specimen was obtained at a depth of 366 meters off Lucaya, Grand Bahama Island.



Pleurotomaria lucaya Bayer, 1965

Straits of Florida. Approx. 29mm

Photograph by Robert H. Janowsky

In a survey of the Pleurotomariidae in the Hawaiian Shell News XIX(8):10, Aug. 1971, the existence of only one specimen (the holotype) is reported. I know of no specimen in a private collection today other than the one here illustrated. This shell, like the holotype (which measures 28 x 32mm), is a pale tan with yellowish axial streaks. And, like the holotype, has a slit that encompasses the greater part of the diameter of its body whorl.

The illustrated specimen is in the collection of NYSC member C. K. Duprey, of Nashville, Tennessee.

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NEW YORK SHELL CLUB NOTES No. 267 December 1980 Page 1

The NEW YORK SHELL CLUB meets on the second Sunday of each month, September through June, in

ROOM 426, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, DECEMBER 14, 1980, at 2:00 pm

PROGRAM: CLAMS CLEAN THEMSELVES
by Mathilde P. Weingartner

FORMING A LIBRARY
A mini-talk by Frank Nelson

DISPLAY CASE
Morris Levine

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HIGHLIGHTS OF THE OCTOBER MEETING

President Fred Cannon expressed thanks to Dorothy Raeihle for her considerable efforts in gathering and editing the material from which she created the special issue of SHELL CLUB NOTES devoted to Karl Jacobson. He also thanked those who assisted Dorothy by supplying data on Karl's contributions to amateur and professional conchology.

The shells on display represented Harvey Frajlich's good fortune in having the opportunity to collect from dredge material generated by a beach-widening project in Miami.

Morris Levine displayed several sea urchin tests, all of different species, that he had bought during a recent trip to Thailand. Using the light from the slide projector, he demonstrated the beautifying effect of internal lighting on these delicately filigreed spheroids, and the distinctive color of each species.

The speaker was Bob Janowsky, who gave the talk that had to be postponed from the September meeting for lack of a projector. His subject was "Shells: Formation, Form and Function." Starting with drawings, he traced very briefly the path from the earliest single-celled creatures to specialized organisms, and then discussed in some detail the evolution, in mollusks, of specialized organs and body parts, and their functions. Showing photographs of gastropod shells, he pointed out the features that reveal the adaptations that have evolved within this group.

Milton Werner, Recording Sec'y

REVIEW:

CONCHS, TIBIAS, AND HARPS

by Jerry G. Walls, 1980, TFH Publications, Box 427, Neptune, New Jersey. 191 pages, over 200 color photos, 5 1/2 x 8 1/2", plastic laminated cover. Price $9.95 plus $1.00 postage and handling.

As stated on the cover, this tome is a survey of the families Strombidae and Harpidae, with every living species illustrated in color. The format is the same as for Walls' two previous books, COWRIES, and CONE SHELLS, with two pages of color plates alternating with two pages of text. The book opens with discussions on conchs and their allies, on development, and ecology. It is profusely illustrated with sketches depicting opercula, verges, and outlines of the various forms of conch shells. Four full genera are recognized: *Tibia*, *Terebellum*, *Lambis*, and *Strombus*. *Rimella* is treated as a subgenus of *Tibia*. *Tibia martini* should be spelled with a double "i" ending (Marrat having named it for F. G. Martini).

There have been new developments in the stromb world since Tucker Abbott monographed them in INDO-PACIFIC MOLLUSCA in 1960. Walls has numerous maps showing the known distribution of each species. Under the heading "Collecting Conchs and Harps," the author lists what he considers the few rare and/or expensive species. (I recall that, when I was trying "to complete the family" years ago, *Strombus* (*Canarium*) *haemostoma* Sowerby was the most elusive and difficult to acquire.) Also, Walls lists several species (all in *Canarium*) that, while probably not uncommon in nature, "have been hard to find for sale, perhaps because many dealers have found these species difficult to identify until now." There is also a section on "Conchs and Harps in the Aquarium."

With *Harpa* the author states that they "are a more difficult group to collect although only ten full species [including two species of *Austroharpa*] are recognized here." When Harald Rehder monographed the harps in INDO-PACIFIC MOLLUSCA in 1973 he revised the group (based on his studies of typological material and the literature). This involved "switching" several names from our previous concept of those taxa. Involved were *H. major* Röding, *H. davidis* Röding, *articularis* Lamarck, *ventricosa* Lamarck, and *conoidalis* Lamarck. Rehder decided that the first four were full species, with the name *H. conoidalis* in synonymy of *H. major*. Furthermore, he proposed a new species, *H. kajiyamai*. Walls' treatment goes a bit further: he considers *H. davidis* Röding to be a wide-ranging Indo-Pacific species, with *ventricosa* and *major* as variants [it may be pointed out, however, that the taxon *H. major* Röding has page priority over *H. davidis* Röding]. Also, *H. kajiyamai* is considered by him to be a variant of *Harpa harpa*. Sketches of the patterns of pigmentation on the columella are given as an aid in differentiating the various species and varieties.

The book closes with a bibliography, checklist and pricing guide. It will be noted that the illustration index comprises two pages, while the synonymic index of these much-named families consists of five pages of names -- in small type! Recommended.

William E. Old
Department of Invertebrates
American Museum of Natural History.

"TURRITELLA"

To most rockhounds, Turritella means "Turritella agate." There was a ripple of discussion about the correct generic term's being Goniobasis, but Turritella stuck. Now, "The Keystone Newsletter" quotes Horace D. Thomas, State Geologist of Wyoming:

> "The fossil snail in 'Turritella agate' does not belong to the genus Turritella, which is a marine snail. The agate comes from Eocene rocks in the Green River Basin, Southwestern Wyoming, which are of fresh-water origin.
>
> "We always have referred this snail to the genus Goniobasis, but recent word from Dr. W. H. Bradley of the U. S. Geological Survey indicates that it properly belongs to the genus Oxytrema.
>
> "Just how the name 'Turritella Agate' came to be applied to the rock is a mystery. I have imagined that some rockhound identified the snail as Turritella because it is high-spired and superficially like that genus. The name, then, may have been perpetuated.
>
> "The oval structures are probably one of two things, both of which are known to occur in this rock. If they are circular in cross-section and have a concentric structure they are oolites. If they are ovate and lack concentric structure, they may be fossil ostracods. If any of the surfaces of your specimens are not polished, ostracods there might look like minute pelecypods (bivalves or clams) - they are bivalved and have hinge line. Maybe both occur!"

Goniobasis or Oxytrema, rockhounds call it Turritella!

Reprinted from THE LAMIT V(5):10, May 1975

TYPES OF FOSSIL PRESERVATION

Fossils are preserved in different ways, and some knowledge of these processes will help you understand your specimens. The entire animal or plant may be preserved without alteration: this is called ENTIRE PRESERVATION. When minerals, precipitated from ground water, fill the openings in shell or bone, long after the flesh of the animal has decayed, the shell or bone becomes heavier and harder; this process is called PERMINERALIZATION. The ground water may dissolve away some or all of the mineral matter in bone or shell and replace it with other minerals that water carries in solution; this is called REPLACEMENT. It may be encased in rock and all the liquids and oils in its body may be squeezed out; this process is called DISTILLATION. When plants are preserved by squeezing, they are called COMPRESSIONS. The ground water seeping through the rock may dissolve the shell or bone completely without replacing it with other minerals. In that case, if the rock has hardened before the fossil is dissolved out, the rock retains the imprint of the fossil making a MOLD. Sometimes the mold is later filled with mineral matter, producing a CAST, which is a replica of the original fossil in different material.

From GALCO PEBBLE PATTER via others and reprinted in THE LAMIT V(5):9, May 1975 of The Norfolk Gem and Mineral Association

NOTES ON EUGLANDINA ROSEA

During World War II the Giant African Snail, *Achatina fulica* Bowdich, was introduced to the Hawaiian Islands and other islands of the Pacific Ocean. In the years since then, attempts have been made to control the destructive *Achatina* by introducing carnivorous species to prey on them. Among these predatory, carnivorous species was an attractive land snail of our southeast: *Euglandina rosea* (Férussac). Results were mixed and sometimes dismaying. What is the status now, after some twenty-five years?

From: NYSC NOTES No. 41.4, April 1958:

> FLORIDIAN EUGLANDINAS IN PALAU, waging a noble war. The TIMES last Sunday (May 4) reports: "Another notable inhabitant of the (field) laboratory is the cannibal snail from Florida (NOTE: *Euglandina rosea* (Férussac)). This species eats other snails as well as its own kind. But it prefers the giant African snail (NOTE: *Achatina fulica*), which destroys food-producing gardens in many islands in the South Seas, especially in Palau...Theoretically, when the cannibal snails have destroyed all the giant African snails they will turn on each other for lack of any other food, and that will bring on the end of a natural cycle that will have benefitted everybody except snails." end quote. Perhaps the reporter is correct in his last speculation, but it makes one sad that before this snail-free day will dawn, the beautiful and entirely harmless species like *Partula* will also have disappeared. Next to Nature herself (who has destroyed more species of animal life than we can ever dream of), man is the worst destroyer.
>
> (mkj, ed.)

From: NYSC NOTES No. 49.6, February 1959:

> OBSERVATIONS ON A CAPTIVE EUGLANDINA ROSEA collected by Mr. Carl Kauffeld of the Staten Island Zoo at Okeetee, South Carolina, indicate a wide range of molluscan prey. This is at variance with the experience of Ingram and Henning as quoted in Pilsbry's "Land Mollusca of North America, Vol. II" who found that "of various snails offered, only *Mesomphix inornatus* and *Anguispira alternata* were devoured." My Okeetee specimen has readily accepted *Succinea ovalis*, *Mesodon thyroidus*, *Triodopsis albolabris*, *Humboldtiana* sp., *Ventridens ligera stonei*, and in addition several species of slugs including small *Limax maximus*, *Deroceras* sp., etc. The slugs were ingested whole in a manner similar to *Conus* ingesting a fish. I am experimenting at present with the relative importance of sight versus smell as a means of detecting prey -- smell seems to be the primary sense.
>
> . . . . DR. WILLIAM H. LOERY

From: Jacksonville SHELL-O-GRAM *20*(12):4, December 1979:

NOTES ON THE FEEDING HABITS OF EUGLANDINA ROSEA(Férussac)

by Clyde Hebert

> Malacological authorities, Pilsbry et al., state that *Euglandina rosea* is carnivorous, subsisting on other snails, slugs, worms and the like. True, but that is their *preferred* diet. They can and will eat just what other snails do, when nothing else is available. (I, too, prefer steak, but can get along on beans!)

The Euglandina I have in captivity, brought back in August from near the Appalachicola River in Gadsden County, Florida, is quite well and has grown appreciably, living only on decaying vegetation and the minute fungi that occurs in rotting wood. Proof of his having eaten is shown by deposits of fecal matter. I also feed him Gerber's Baby Food, smeared thinly on the sides of his housing. He will not eat lettuce or other fresh greens. Perhaps he would like to have some snails for his dietary fare, but I have none to offer him.

Snails can go for long periods without eating, but must have moisture to survive. Most of the time he remains dormant, but when cool weather causes moisture to condense in the top of the globe wherein he is housed, or when sprinkled with water, he becomes quite active...With his long neck stretched out and waving back and forth in a searching manner, he does appear quite menacing (to other snails, that is).

CYPRAEA PORTERI Cate, 1966

Robert H. Janowsky

I must confess that I have had for several years a deep-seated dislike for this rather attractive and extremely rare species. I was never sure as to why this was until I was going through my slides to prepare a talk on rare Cypraea and came across a slide of a particular specimen of Cypraea porteri and had one of those all too familiar moments of revelation:

One morning several years ago our telephone rang at about one o'clock. Since I am a perfect gentleman about such matters, I awakened my wife, Dorothy, and allowed her to take the call. She was gone for a few minutes, during which time I managed to fall asleep. She returned and I half awoke when she said that she had just bought a Cypraea porteri. I mumbled some suitable acknowledgment, such as, "That's nice, dear," and went back to sleep .... for about two minutes. By the time my realization of what she had said sank into my dormant brain she was sound asleep, and I was left to spend a restless night mulling the whole thing over.

I awakened her at a decent hour (5:00 am is, after all, as decent as any other hour that I can think of) and reviewed the happenings of several hours before. The telephone call was from the secretary of one of our regular suppliers from Taiwan. He was calling to let us know that a specimen of Cypraea porteri had just been collected by a fishing trawler and that he could get it for us if we wanted it. I like to think that he had forgotten that there is a time difference of almost twelve hours between Brooklyn and Kaohsuing, but I more suspect that he was anxious to be the first one to make a sizable profit on the shell. Needless to say, we wanted the shell and that morning cabled to confirm our interest. Alas, the story does not have a happy ending: The specimen arrived a few days later and proved imperfect, with an obvious growth scar above one margin.

I must admit that I was quite tempted to purchase the shell despite the flaw, but from both an economic and aesthetic point of view I have never been able to recommend to any of my clients a shell that is imperfect to so great a degree, and I returned it to Taiwan.

Several months later a fellow shell dealer was visiting us and he proudly displayed his newly acquired specimen of Cypraea porteri. I could not repress my laughter when I saw the scar above its margin. I just wonder if my confrere lost a night's sleep over it, too.

Cypraea porteri was described by Crawford N. Cate in 1966 in THE VELIGER, 8(3):200-201, from a single specimen collected in 48 feet of water at the entrance to a coral cave off Manubal Island (part of the Tapul Group), just south of Capac and Siasi Islands in the Sulu Archipelago, Philippines. The specimen measures 47.0mm in length, 34.7mm in width, and 25.3mm in maximum height.

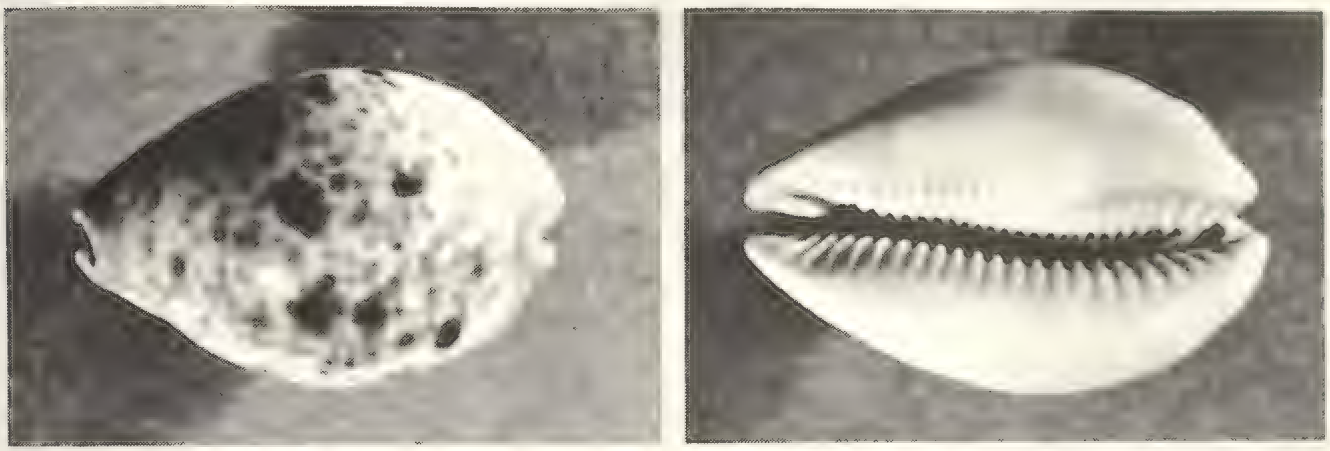
In 1920 Phil Clover came across a shell somewhat similar to Cypraea porteri, but different in some aspects, which was taken from deep water off Taiwan. This shell was considerably larger (57.7mm x 37.1mm x 30.4mm) and slightly different in shape and dentition and in several other features. The differences were great enough for Clover to describe his shell as a new species, Cypraea joycae, in VENUS, 29(2):35-36. Today most Cypraea specialists consider joycae a synonym for the earlier-named porteri. Readers interested in a thorough diagnosis are referred to an article by Luigi Raybaudi Massilia on Cypraea porteri in LA CONCHIGLIA, year 9, #104-105, Nov.-Dec. 1977, pp. 4-14. Accompanying the article are color photos of the types of both C. porteri and C. joycae, along with five specimens in the author's collection, three of which are larger than 60mm.

In the past few months perhaps twenty specimens of Cypraea porteri have been collected in nets in rather deep water (about 150 fathoms) from Balut Island, in the Philippines. I have been able to examine two of these specimens and have seen photographs of two more. These specimens, and from what I can learn about those others from the Philippines that I have not seen, have been much darker in color than those collected in the waters off Taiwan. The Philippine specimens have bright orange bases with dark spotting and a honey-colored dorsum, while those from Taiwan have creamy/orange bases, somewhat lighter colored spots and orange/tan color on the dorsum. The shells from both areas, though, have bright orange margins and canals. It is interesting to note that at this time only the holotype of C. porteri was obtained in relatively shallow water. Clover's holotype of C. joycae came from a depth of 240 meters. The five specimens reported by Raybaudi Massilia were taken from depths ranging from 170 to 220 meters, and specimens collected now in the Philippines also come from approximately 150 to 200 meters.

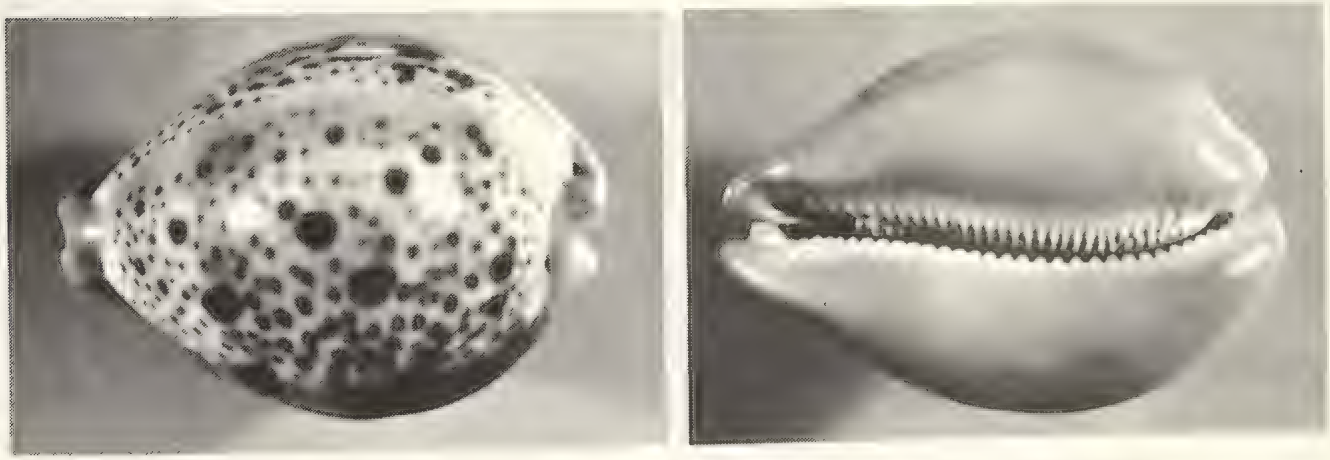
The Taiwan specimen illustrated here is 48mm in length and was collected at approximately 200 meters depth by a commercial fishing boat working off Ilan, off N. W. Taiwan. This specimen is in the collection of C. Duprey, Nashville, Tennessee. Its color and shape are typical of other specimens seen from Taiwan. This specimen has 25 labial teeth and 26 on the columella. The second specimen illustrated is from the Philippines and measures 50.8mm in length.

Clover's observation that the specimens from Taiwan have fewer and coarser teeth than specimens from the Philippines seems justified. The average number of columellar teeth of the five specimens reported in LA CONCHIGLIA, the holotype of Clover's C. joycae, and the specimen illustrated herewith, is 27.4, and for the labial teeth the average is 25.1. The corresponding figures for the holotype of C. porteri are 32 columellar and 33 labial teeth. The Philippine specimen here illustrated has 31 columellar and 33 labial teeth. This specimen is in the collection of Miguel Parcerisas Roses of Barcelona, Spain. The differences in the numbers of teeth are significant when we remember that the holotype of C. porteri is 47mm compared to the average length of 55.7mm for the Taiwanese specimens.

One final note on this species. In the first edition of Jerry Walls' book, COWRIES, the author considers *C. porteri* and *C. joycae* as separate species and illustrates on an unnumbered page corresponding to 261 a specimen erroneously called *C. joycae*. I have examined this specimen, which is in the collection of NYSC members Dr. and Mrs. William Walkwitz, and believe it to be a sub-adult specimen of an albinotic *Cypraea jeaniana* Cate, 1968. In the second edition of COWRIES, Walls considers *C. joycae* a synonym of *C. porteri* and on page 228 illustrates a rather pale-colored specimen.



Cypraea porteri Cate, 1966, 48mm, Taiwan.



Cypraea porteri Cate, 1966, 50.8mm, Philippines.

Photographs by Robert Janowsky

IN HONOR OF WIVES

Cypraea jeaniana: Named by Crawford Cate in honor of his wife, Jean.
Cypraea joycae: Named by Phil Clover in honor of his wife, Joyce.
Cypraea katsuae Kuroda: Named in honor of the wife of Akibumi Teramachi.
Pterynotus miyokoae Kosuge: Named in honor of the wife of Mr. Suzuki, a shell dealer in Japan.

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